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ABSTRACT

Begun in 1992, the Selborne Project helps teachers, primarily in middle schools, to use the square kilometer around their school as a theme to integrate nature study into the curriculum. The inspiration for the project stemmed from the 18th-century book, "The Natural History of Selborne," in which Gilbert White detailed nature's presence in the daily life of an English village. In 1996, the project came to the attention of the Annenberg Rural Challenge, which supports placed-based education and community connections in rural schools. This proceedings includes presentations and summaries from a 1997 conference on the Selborne Project and place-based education. An introduction by William L. Sharpe gives a brief history of the development of the Selborne Project by the Roger Tory Peterson Institute. Presentations are: (1) "What Education Can and Must Be: A Challenge to Us All" (Walter Cooper); (2) "Place-Based Education: Two Views from the Past" (Jenny Streeter, Helen Bowdoin); (3) "Place Value: Experiences from the Rural Challenge" (Paul Nachtigal); (4) "Summary Remarks" (about sense of place, sustainable communities, and the role of education) (Marty Strange); (5) "Sense of Place Education for the Elementary Years" (David Sobel); and (6) "Summary Remarks" (observations by a Rural Challenge scout of innovative rural school projects) (Barbara J. Poore). Also included are a summary of breakout sessions, description of conference field trips, profiles of conference speakers, list of conference participants, and photographs. (SV)

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COMING HOME:

Developing a Sense of Place In Our Communities and Schools

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Roger Tory Peterson Institute
of Natural History

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Proceedings of the 1997 Forum

Coming Home:

Developing a Sense of Place in Our Communities and Schools

Edited by
Mark K. Baldwin

Published by the
Roger Tory Peterson Institute of Natural History

Cover Photograph: **The Selborne Hanger, a place that Gilbert White loved in his home of Selborne, Hampshire, England. Photographed by Jenny Streeter.**

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The mission of the Roger Tory Peterson Institute is to create passion for and knowledge of the natural world in the hearts and minds of children by inspiring and guiding the study of nature in our schools and communities.

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INTRODUCTION

by William L. Sharp

The inspiration for the Selborne Project stems from the 18th century book, *The Natural History of Selborne*, by Gilbert White. Loved by generations for its detailed and unpretentious account of nature's presence in day-to-day living, *The Natural History of Selborne* captures the essence of English village life. White's perception of the importance of man's relationship to nature is as important today as ever and serves as a model for infusing nature study into school curriculum.

Based on teacher reactions to RTPI workshops on sketching and photography, Mark Baldwin and I got the idea of using Selborne as a framework for a middle school curriculum project. These teachers feel that nature study fits and enhances their teaching and motivates many students to take a greater interest in school. It appears that giving young people the opportunity to discover nature in their neighborhood helps to make sense out of the pieces of the world they live in and motivates a greater interest in learning itself. As eighth grade English teacher Lori Nystrom said, "They write better because they have something to write about."

This is consistent with a contemporary national effort in middle schools to integrate the curriculum and embed learning in real, life-connected experiences in the child's immediate environment.

In 1991-92 we were exposed to a series of books that were being planned by Walker and Company of New York. The series editor, Mary Kennan Herbert, had engaged naturalists/artists to do in-depth treatments of a square mile in four different regions of the country. The reader of the series would be able to compare and contrast a square mile in Missouri to one in New England, to one in New Jersey, etc. The Missouri book and the New Jersey book were published before Ms. Herbert's project ceased.

In September 1992 we decided to apply the *idea* of Gilbert White observing and recording daily events in Selborne to a project that helps teams of middle school teachers to use the square kilometer around their school as a theme to integrate nature study into their curriculum. The square kilometer was a scale of study more accessible than a square mile and, being metric, the kilometer better fit the math and science curriculum.

That year, armed with some graphics prepared by Mark, I took the idea to several middle schools in Western New York with an offer to support teams who would work with us in developing and field testing what we started calling "The Selborne Project." Two brave teams emerged locally — a sixth grade team from Falconer Middle School and an eighth grade team from Jefferson Middle School in Jamestown.

In July 1993 we held a five-day summer workshop on nature study for the Selborne teacher teams at Chautauqua Institution. That was made possible through an Eisenhower grant received by Dr. Dan Dobey at the State University of New York College at Fredonia. Later that summer the teams got together with Judith Guild, a remarkable teacher trainer with the Chautauqua County Board of Cooperative Educational Services and Jamestown Public Schools, to plan detailed interdisciplinary lessons.

In the fall, each team devoted six weeks to an interdisciplinary study of their respective square kilometers. The teachers worked extremely long and hard. Thankfully, the

results were well worth their efforts. Students enjoyed learning, absenteeism went down, and many students developed an appreciation for their communities. Parent involvement was high,which made the experience even more worthwhile. Today both of the original teams view Selborne as an integral component of their program.

By 1995, RTPI had trained teachers from schools in Buffalo; New York City; and Louisville, Kentucky; as well as many in our local area. Enthused about the Selborne Project at Beaty-Warren Middle School in Warren, Pennsylvania, school district grant writer Penny Jobe received the attention of the newly formed Rural Challenge. Rural Challenge scout Barbara Poore visited our area in March 1996. We were deeply impressed by what we heard of what the Rural Challenge was going to accomplish, and Barbara was evidently pleased with the work we were doing. Before long, we had become Rural Challenge partners. The work of four school districts - Jamestown, Chautauqua Lake, Falconer, and Warren County - with coordination and training provided by RTPI, continues under the generosity of the Rural Challenge and its matching donors.

This conference, held on May 16 and 17, 1997, and the proceedings of that conference on the pages that follow, are part of the program we have designed to enhance, in depth and breadth, the Selborne Project in our communities. The goal of the conference was to validate and guide our work in the coming months and years. It is our hope, as well, that these proceedings will contribute substantively to the ongoing conversation about place-based education to which the Rural Challenge is devoted.

WHAT EDUCATION CAN AND MUST BE:
A Challenge to Us All

Walter Cooper

A friend once told me that when he looked at the history of education reform it reminded him of a phenomenon called random quantum fluctuation. A measuring device used to detect the cosmic radiation showers that periodically hit the earth, for example, will measure nothing for a long time and then will get a "blip". He said that that is analogous to what has happened with education reform. The education system will go for a time without any perturbations that dictate reform, then all of a sudden there is the pressure for reform and the signal goes off. But, as soon as the pressure is off, the system returns to its original position, so you end up with, essentially, the same kind of institution that you started with at the turn of the century.

I'm not that cynical. I've seen some real changes take place in education in New York. We know that education is a pivotal factor in the life of every community. In fact, all education is for the future. If a community, if a state, if a nation has a future, then it has to have a high quality educational institution.

In the State of New York, we have done very well in terms of educating the majority of students in the state, but it is not good enough. I will share some of New York State's education reform efforts, from a historical perspective, all of which were designed to improve the system and create an educational institution of excellence.

The Regents of the State of New York are a very old body, some say too old. It was founded in 1784, which makes it older than the Constitution of the United States. Among its luminaries have been Alexander Hamilton, John Jay, Governor Clinton, and John Dewey, the inventor of the Dewey decimal system.

The Regents are New York's education policymaking body. It is comprised of 16 individuals; 12 representing judicial districts of the state, and four at-large members. The regents are responsible for the educational lives of 3.1 million students--2.8 million in public schools; 365,000 in private and parochial schools.

The Regents serve without compensation. They are elected by the State Legislature and serve five-year terms. The Regents license 38 professions and discipline 37. They are responsible for the charters of post-secondary educational systems, and are also responsible for 7000 libraries and the state's museum system. Furthermore, they have some responsibilities in public television and public broadcasting.

They hire a commissioner who serves at their pleasure and they have a bureaucracy, the State Education Department, which has 3000 employees. The Regents are able to set policy, but are not the sole education policymaking body in New York. Many regulations are driven by the State Legislature. I did an analysis of 468 regulations several years ago and found that 65% of them were driven by legislation, 32% by commissioner rules and regulations, 3% by Regents' rules and regulations.

The Regents are responsible for 714 school districts and 38 Boards of Cooperative Educational Services. The Boards of Cooperative Educational Services have district superintendents who report directly to the Commissioner of Education.

The system has served New York State well. Within the last 50 years 31 Nobel Prize winners have graduated from public schools in the State of New York, including some women, like Dr. Rosalind Yulow, who won a Nobel prize in the field of medicine. Millions of children from all kinds of backgrounds, many of them from foreign shores, have been educated in New York over the last century in a manner that has enabled them to live decent and productive lives.

Prior to World War II our system was one of the best in the world, when universally free education was not the way of life in most countries. Many of the countries that are now our economic competitors copied the American version. For example, in Germany over 5% of their high schools are modeled after the comprehensive American high school. They are called Gesamtschule. The only difference that the Germans have applied to their Gesamtschule is they have added an apprenticeship program, which works very well there. I think one of the forces behind the school-to-work program in New York was the fact that, worldwide, almost invariably, effective educational systems had effective career exploration and school-to-work programs.

When the Russians orbited Sputnik I in October 1957, it energized the American educational system to reform the teaching of math, science and technology, particularly in its high schools. That reform didn't last too long. We sank back again into our old ways of doing things, but in the 1960's the Regents had what they called a redesign program that encouraged planning and community involvement in five prototype districts across the state. (Five out of over 800 districts.) Then in the seventies there was the Resource Allocation program which was to target high priority districts with resources as a means of improving educational output.

With the downsizing of basic manufacturing in the state in the eighties and early nineties and the restructuring of high technology, it became evident to the policy makers that education reform had to be a high priority. Complaints from industry and post-secondary institutions strongly suggested that our students were not well prepared for either the workplace or post-secondary education. The economy had been transformed from an industrial economy, where labor still played a dominant role, to a post-industrial economy, where knowledge had replaced labor. We needed to provide our youngsters with an education that was broad and deep enough to allow them to acquire the knowledge base that would enable them to participate in an economy that was driven by knowledge and was worldwide in scope.

In 1983 the Carnegie Commission published *A Nation at Risk*. That report stated, "If an unfriendly nation or power had imposed our schools upon us we would have regarded it as an act of war." But we did not wage war on ignorance and illiteracy within our schools, or within our population in general. It is estimated that 20% of the American population is functionally illiterate. So, we have a job ahead of us not only in terms of our structured educational system, but in terms of lifelong learning and adult literacy.

Welfare reform will not work unless we focus on adult education. The state will provide funds to educate a youngster until the age of 21, but you will not find a 20-year-old in most high schools. Why? Because there are subtle pressures for that youngster to be pushed out of school at age 17 or 18. We only give lip service to lifelong learning. If we truly believed in it, then learning would be a time-independent phenomenon. But, the constraints we put on the learning process spell out the sad reality that learning is a

time-dependent phenomenon. So, we have stereotypes to overcome if we are going to really reform our educational system.

The Regents action plan of 1984 focused on minimum competency. What it allowed us to do was to move away from the principle of all students obtaining a Regents diploma and set into motion the local diploma. A high school diploma (local diploma, minimum competence) represented a high school graduate operating at a ninth grade level in terms of the disciplines. That wasn't good enough for industry or for post-secondary education. If the United States is to maintain its economic preeminence, we have to improve our educational output. What keeps us ahead of the rest of the world, in terms of our economic strength and vitality, is the productivity of the American worker, and it is driven by education.

Five years ago, the top economists in the United States met at Jackson Hole, Wyoming, to try to separate out the role of education in the American economy. They concluded that if we could increase the aggregate education performance of our population by one year, we would add one-third of one percent to our gross domestic product. Our gross domestic product now is approximately $7 trillion. So, you can see the boost that education provides to our economy and our quality of life.

When I became a member of the Board of Regents in 1988, a task force studied teaching as a profession, with the aim of recognizing teaching as a profession. They issued a report on teacher pre-service and in-service training, the disciplining of teachers, their continuing competency and accountability, how they operate peer group assessment, allegations against malfeasance, negligence, and other charges that are often brought against teachers. To the chagrin of the Regents, the State Legislature, which had to pass the legislative item to professionalize teaching as an institution, voted it down in its 1988-89 session and in subsequent years. So, we never found out to what extent we could boost educational performance by professionalizing teaching as an institution.

We do know in the eighties in most communities the legislature and the local communities professionalized the salaries of most of our teachers. Teachers had been woefully underpaid in this state.

In 1989, the Regents came out with what they called the Excellence Accountability Program, which addressed that other important element in educating a child--the community. Could a district get community involvement--its senior citizens, professionals, business persons and others--into the planning, implementation and development of schools of excellence? The Excellence Accountability Program did not work too well, and it was superseded, in 1990, by a total reform package in which the strategic objectives of education were delineated. It would involve all of the elements involved in education, including the cultural institutions, the unions, the professions, and the community.

This was the New Compact for Learning. It involved the issuing of comprehensive assessment reports that detailed the vital statistics of each school in the state. It was also coupled with a Curriculum Assessment Committee, which developed curriculum frameworks in seven disciplines, so we could raise the standards of the enterprise. The comprehensive assessment reports revealed that there were over 90 schools in the state where, for three years or more, most students were operating below minimum competency. And so, we developed the Schools Under Registration Review. Prior to 1989, only high schools were registered in this state, but after 1989, every school in the state--over 4000--was registered on an annual basis. These schools under registration review were called SURR schools. I call them bankrupt schools. Many students had been in

these schools, particularly in New York City, for all of their educational lives. They had never attended a school that had most of its students operating above minimum competency.

This led to a program to restructure and provide technical assistance to these schools. Most of them were in New York City. New York City has some of the world's worst schools, but also some of the world's best schools. At 1.1 million students, it is the largest school district in the United States. So, special attention is being given to those SURR schools in terms of reconstituting them and trying to get them off the SURR list. If most of the students are operating above minimum competency for a period of two successive years, the school is taken off the SURR list.

By 1995, the new learning standards for seven educational disciplines had been completed. But prior to that, we also looked at the issue of school-to-work. In 1990 a cohort study of 100 eighth graders revealed that at the end of 12th grade, 80 would receive a diploma and 20 would have dropped out. Out of the 80, 70% would go on to post–secondary education, or 56 out of the original 100. At the end of four years only 50% of that 56 would have received either an associate's degree or a bachelor's degree. So we were losing the creative talents and energies of a large segment of our young people. Furthermore, it was exacerbated by the fact that the average age in union apprenticeship programs in this state was 28.

This indicated that a large number of our young people, after graduation, were going for a random walk through educational institutions and the workplace, from one job to one training position to another, so by the time they reached their late twenties it became a serious proposition to find something solid either in post-secondary education or through some apprenticeship or training program.

At that time Lester Thurow, Dean of the Sloan School of Management and Business at MIT and author of the *Zero Sum Society*,was telling the story of Daewoo Manufacturing. Daewoo is an automobile manufacturer in Seoul, South Korea. The design of the manufacturing floor at this plant is Japanese, the machinery is German, the workers are Korean and the automobile produced is the Pontiac LeMans. So, you don't need American machinery, American capital, or American workers to produce an American car.

Thurow's anecdote illustrated how mobile knowledge and capital are today in the world economy and it also emphasized the global dimensions of the economy. Of course, we are aware of NAFTA and the European community and the constellation of nations in the Pacific Rim. There are emerging three regional economies across the world--the economy of Europe, the economy of the Americas, and the economy of the Pacific Rim. Thurow claims that the real winner in the 20th century, unless we turn around our educational system, will not be the Pacific Rim, but will be Europe. Why Europe? Because of the high quality traditional educational systems there. He admits that the availability of education to the broad general public in many of those European nations is not as free as it is in the United States. And he did say that what is saving us at present is our institutions of higher learning.

In New York State, for example, 17% of the student population in Westchester County is Asiatic. Children of those managers who come to the United States to man enterprises in this county, go to colleges, and they also go to our elementary and secondary schools. Their parents have no qualms about sending their youngsters to our post-secondary institutions, but supplement the education of those who attend our elementary and secondary schools because they believe that our public education system and

even some of our private schools are not good enough for the competition that their children will face in the 21st century.

In 1995, we hired a new Commissioner of Education. He took the broad strategic objectives of the new compact and devolved them into something that is achievable over a relatively short period of time. In essence, we will: raise the standards, which we have done; increase the capacity to teach to those new standards; and develop valid and reproducible assessment tools. Every school district will get an annual report card which will have indicators of the performance of that district. Much to our sadness, when the report cards came out in January 1997, we found that one out of five of our third graders were not reading at grade level. In New York City, two out of five were not reading at grade level. So, we submitted to the legislative body a request for more money for reading readiness and requested more money for pre-school programs to improve the readiness of our youngsters as they enter the school setting.

Furthermore, we decreed that there will be only one diploma, a Regents diploma, the details of which have not yet been worked out. However, we are beginning to phase in Regents examinations for our students, and by the year 2003 all of our graduates will have a Regents diploma., No more local diplomas.

We cannot, through lassitude or through inattentiveness, consign our youngsters to a marginal existence in this society. The state is dependent upon it. As late as 1986, the economy of the State of New York was the ninth largest in the world in terms of gross domestic product, but since that time we have lost over 500,000 manufacturing jobs. They have been replaced by jobs in retail and other service sectors. The net economic value, though, has gone down. In 1991, it was estimated that in manufacturing the average weekly income from those jobs lost was $450 per week. The jobs that replaced them earned about $300 per week.

That erosion has to stop. There are still lots of talented people in this state. We have small, high-tech industries that are evolving. We have a student population which I think can produce, but it's tougher now than it was 40 years ago. In many cases two parents have to work to maintain the economy of a family. Eight years ago I was in a conference with Jules Sugarman, who co-authored Head Start with Ed Zeigler. He said that this country has to develop a social policy geared to family. That is the best and fastest way to improve educational outcomes. Stabilize the family and a primary derivative of that new stabilization will be improved educational performance on the part of our students.

In 1966 the late James Coleman of the University of Chicago published the results of the most massive study ever undertaken in the United States on our public education system. Over 300,000 teachers, students, administrators and parents were interviewed about education. And the conclusion that Coleman reached, after looking at all of the data, was that the family may be the primary determinant of educational achievement.

PLACE-BASED EDUCATION:
Two Views from the Past

Jenny Streeter and Helen Boudoin

Jenny Streeter, Gilbert White Field Studies Centre, Selborne England

In 1953, when the property in which Gilbert White had lived most of his life came onto the open market, a wealthy antiquarian dealer, Robert Washington Oates, purchased the house and put his money into establishing a joint foundation between the Oates Memorial Museum and Gilbert White Museum.

Robert Washington Oates was a nephew of Lawrence Oates, who gained his fame from having been on the fatal Scott expedition to the Antarctic. The sentence, "I'm just going outside and may be some time," is engraved into British history. Those are the words with which Lawrence Oates walked out of the tent to his death, leaving behind the three remaining members of the expedition party, who also perished.

Robert Washington Oates was looking for a place to establish a Memorial Library to his family. The Universities did not want him--though they regretted it, because all of his books formed his endowment--so Oates purchased the house in which White had lived.

I was appointed in 1974 to establish the Field Studies Centre because the museum trustees decided that we should be involved in teaching as wide a scope of British environmental sciences as is possible.

What I want to do here is to describe who Gilbert White was, what his book, *A Natural History of Selborne*, is all about, and why we think that what we do at the Centre matters.

Having died peacefully on June 26, 1793, Gilbert White was carried to his grave in Selborne Churchyard by six men who were paid ten shillings each. An enormous amount of money, but he felt very strongly that the men who carried him to his grave should be treated equally to the man who preached the sermon over his body. A very simple gray headstone is what Gilbert White requested before he died, the way his physical remains were to be remembered.

The village of Selborne is today almost identical to that which it was 200 years ago. The settlement pattern is linear, very simple. The house in which Gilbert White lived, The Wakes, has changed. All he knew was the stone central building when he first moved there in 1720. The rest of the building has been added since that time. It is still a site of local communal activities. The village fete, held every year at the end of June, is one of the big events in the village. Selborne is a village of 650 souls today.

Gilbert White was born in 1720 in the vicarage. His grandfather had been vicar of Selborne parish, so the vicarage 'went' with the living. It was a mediaeval house, timber-framed, with a large external chimney. In that house lived Gilbert White, newly born to his parents, plus the grandparents, plus two unmarried aunts. The place became

rather crowded. His father had fairly recently given up work. He had been a barrister, and having married Anne Holt, who was a minor heiress, ceased to practice.

So, Gilbert White took his interest in the church from his grandfather, not from his father. The family had to move around southern England, there was not enough room for them in the family home. In about 1729 the family moved back to this property, The Wakes. The term "The Wakes" actually comes from one of the previous owners. It is a tradition in our area to name houses after one of the owners. And this house had started probably towards the middle of the fifteenth century, as a mediaeval building. We can't date it precisely because, like many of these houses, there had been a fire at some stage which destroyed some of the evidence in the roof. But, there is no doubt that the early structure predates this building, which is late sixteenth century, probably by about one hundred years.

The Wakes became White's home for the rest of his life. He did go away to school however, to Winchester and to college at Oxford, a fundamentally important time for him.

We know that Gilbert White came back as a trained cleric, and we have quite a lot of information about his years in between. He seems something of a chameleon character; he is generally described as a mild, discreet, quiet curate, but when he was in Oxford, he behaved differently. He wore very foppish and grand clothes, played cards and drank quite considerably. We have the feeling that he rather put on the clothes of the area he was in. And so, when he came home to Selborne, which he always viewed as his home, he became this rather fine, genteel curate. I say "curate"--though he is often referred to as the "Vicar" of Selborne, he could never have been the Vicar of Selborne. In the eighteenth century, a parish would actually be allocated to people who had trained in particular colleges. Selborne was in the hands of Magdalen College at Cambridge and Gilbert White went to Oriel College. So, he could never be the vicar there.

St. Mary's Church was built around 1180 on the site of a Saxon church. It became the root for Gilbert White, as a trained cleric. Clerics would either buy or work their way into several different livings, which would pay them rent. White had one living north of London, a village called Morton Pinkney. He would go there once a year, preach a sermon, collect the rent for a year and then not be seen again. A curate did all the work the rest of the year and was paid a pittance. Because White had enough money from his mother he did not need to earn substantially, but he did have several livings and he was a careful man. (We still have hundreds of his receipts for items he purchased. Being one of the few men in the village who could write, he would write his own receipts for the money he spent.)

We don't know what Gilbert White looked like. It is said that there is a portrait in South Africa, where some of the family moved in the nineteenth century. However, there is no genuine, verifiable portrait of White, and we don't know why. It is possible that it is because, we understand, he contracted smallpox. He would not have wanted a false portrait, but neither would he have wanted his portrait showing the condition of his skin as it really was. All we have is a caricature, a pencil drawing of him in his copy of Pope's *Iliad*.

Where do we start to find a connection between Gilbert White and the present time? It comes from his ability to observe, record and communicate information. From his father, he developed an avid interest in gardening and the house had come with three or four acres when they first bought it. In the early part of his recording time, at the age of 31, he started a Garden Kalendar. Each day he would record exactly what he was doing in the garden. At this time of year, 210 years ago, he was picking cucumbers which he

had grown in a hot bed over the winter. (A hot bed is piles and piles of manure.) If you want to get crops early, through the winter in the climate you have, do as he did, mountains of horse manure will achieve the desired result.

White was interested in the wild plants in his garden, but particularly, he was an innovative gardener. This was an exciting time in eighteenth century gardening. (Tulips were the big thing, from the sixteenth century onwards. In Holland the sums paid for the black tulip, which was never actually found, ran into tens of thousands of pounds.) Everybody was hunting for the great and special and the same applied for all garden plants. We know that he worked to develop his landscape, and to buy land around The Wakes.

This is an area known as the Great Mead as it is now, and Gilbert White's sundial. This is, as far as we are able to tell, a sundial which he put up. But it's in the wrong place, on the edge of the Ha Ha. "Ha Ha" is a French term, coined, we believe, at the beginning of the eighteenth century, to describe this landscape feature, which is a ditch and then a slope to keep out the cattle, but makes you think that the garden goes on forever. As you sit in the grounds you should see no break in the landscape, between the gardens and the landscape beyond. If it was not for that sundial it would work, but Gilbert White put it on the edge and we can't move it.

Within the Ha Ha, 200 years ago, lived mole crickets, now an endangered insect in Britain. There are attempts in the U.K. to re-introduce it from a scrap community in Sussex, which is further south than Selborne. It is beautifully adapted as a burrowing animal with massive front feet. If you hold one in your hand, it digs its way through, actually forces its way between your fingers. It was common 200 years ago.

Timothy Tortoise is always associated with Gilbert White. Obviously tortoises are not native to the U.K. Not a lot of surface living reptiles have adapted to our climate. Timothy Tortoise was a Mediterranean tortoise and Gilbert White inherited him from his aunt. This is where we see the relationship between his gardening and the natural world. Timothy crossed that barrier because he lived in the garden, but visited the hills.

Timothy Tortoise was female, which he didn't know at all, and it wasn't known until the shell, which is in the British Museum, was analyzed many, many years later. Gilbert White experimented on Timothy, gently, like putting her into a barrel of water to see whether or not she was in any way aquatic. He records that she walked most disconsolately across the bottom, obviously not aquatic.

White's brother, who was a publisher, gave him a printed Naturalist's Journal, which he started to use in place of his gardener's journal in 1768. Like most of us, he couldn't keep to the columns, just wrote all the way across them. But, it was a start, it was a way of organizing his thoughts; increasingly his garden records had started to include items about other things that were going on in the natural world around him. And along with his journal, he started to write to two colleagues.

One was Thomas Pennant, an eminent zoologist; the other was James Barrington, a somewhat dilettante barrister who was interested in all sorts of things other than the law. These letters were finally put together in manuscript form, into a journal, and then into the letters which formed the manuscript of *The Natural History and Antiquities of Selborne*. That book was published in 1789. It has never been out of print. What's it about?

It's about the village and the natural world around Selborne. Opposite the house Gilbert White lived in are two of the lime trees which Gilbert White planted in front of the butcher shop because he didn't like seeing the blood running across the pavement from carcasses hanging up outside. Two of the trees are still there today.

He wrote about the daily lives of village people, for example, about the fact that they would regularly have to walk to this particular spot in the south part of the village, to obtain their drinking water.

He wrote about the antiquities. Only relatively small amounts of the antiquities are above the surface. Remains of Selborne Priory date from the 11th century. The Augustinian priory was closed in 1486 by the Pope, who considered the life of the monks there too dissolute to allow them to continue there. He sent them to other monasteries. The site is about a mile and a half east of the village.

Bones appeared when the great yew in Selborne blew down in a storm in 1990. Its girth Gilbert White had recorded, and everybody had recorded, ever since. It was said to be the finest yew in England. An archeological excavation underneath was carried out because we had some hope that we would find the remains of the Saxon church that had been there prior to the eleventh century church. What we found were mediaeval burials, only fifteenth century, dated primarily from the pottery associated with them. They were obviously not buried under the tree; the tree dates at least fourteen hundred years old, maybe older. What probably happened, is that persons were buried close to the yew and the root plate grew out over them. Enormous communal effort went into pulling the tree back up and trying to reroot it. College students from one of our nearby agricultural colleges, with ground anchors and tractors, replaced the famous tree, but to no avail. The great yew died.

White records the way to the village being down narrow lanes. The old walking ways and track ways for the pack animals became heavily eroded tracks into the village which still exist. The Queen's Hotel was at that time known as the Goat and Compasses, and he writes of the arguments in this meeting place for the village elders. He included all of this information in these early works, also the ways in which the village was structured, its housing and its materials. But, we always come back to the really important elements in his work which were his observations of the natural world.

The Hanger woodlands that White considered to be enormous, are all deciduous woodlands, but they are not what we call primary woodlands. Practically no woodlands in England, from the Wash downwards, are the original primary woodlands which colonized the site after the Ice Age. Because of human occupation, land was completely cleared of trees.

Within the area behind the Wakes and the land leading up to these Hangers, White records snipe, which would be shot as a game bird. They are extremely rare now but quite common then. He paid one of his younger brothers to cut a path all the way up the hill. It is called the Zig-Zag path. This is part of the Follies, the alterations made to the landscape at that time. At that time, it was not as heavily wooded, it was sheep down. The sheep down has gone and the woodland has returned because of the change in the agricultural practices dating from the eighteenth century onward.

These great, dark woodlands have been an essential element of English life ever since the Bronze Age. People have cleared them and used them. And many of White's early records of the natural world were concerning the use of timber on these hills. Villagers had rights to certain areas of timber and many times there was enormous trouble over who had the right to which timber. Timber provided not only building materials, but also fuel. And then, of course, the crown became involved and the larger areas of timber could not be removed by the common people.

The plant life of these deep woodlands, stinking hellebore, for example, have high chlorophyll levels. White did not know that, nor that the bird's nest orchid is actually a parasite, but he recorded the fact that these were the common places for them to be found, and the associations between the different plants, between this plant and the roots of hazel. He started to theorize about why this was.

Away from the high hills is chalk downland. Areas of ancient occupation, the roadway that we use to these hills, is called on the mediaeval maps, the road to the ancient burials. There is a strange atmosphere on these hills. We think that one of the sites that we work on, floristically very important, is probably an opened up barrow. It is characteristic of the grasslands that White knew. It is a superb location for orchids, to us quite rare, but to White very common. An unusual species, the musk orchid, only three centimeters high, still thrives on these downlands around Selborne, where they were recorded 200 years ago, the only site in the U.K. with a large population. There he also records the Stone Curlew and starts to consider camouflage and the importance of the way in which its eggs cannot be seen by the common ploughman walking across the fields. Could it be that this was an adaptation this animal had to hide its eggs, to avoid predation?

White's great contributions fall into three main categories: First, his observations of birds and bats. These have stood the test of time. Second, his theories on migration, a matter of great concern. Did it happen or didn't it? Were the same birds that White's brother saw flying over Gibraltar the same ones that left Selborne or similar areas? Third, was his discovery of the harvest mouse as a new species.

A typical exercise in the river is to examine flow patterns--mathematics in the field--in an extensive area that White writes about, Woolmer Forest. He records Black Grouse being taken out there, which now tends to be found only in Northumberland and in Scotland. Back then it was heather as far as you could see. Now, it's pine and sallow birch. The forest also had a magnificent lake, Woolmer Pond, covering sixty acres. It is now a tenth of its former size, managed as far as possible, scraped out, in order to encourage some of the wildlife, particularly the birds, amphibians, and water beetles. It is a dystrophic lake, noted for its extremely low fertility, allowing invertebrates to live there which can live no where else in the country.

We use all of these features in the work that we do with our students, who range in age from four on up. One site, a light, sandy heathland, was once nothing but heather, a site where there were Bronze Age barrows. It is due to become a sand pit. Slap in the middle of a conservation area they've permitted mineral extraction. So we will discuss with our students the value judgments that determine what will happen at this site. Not only is it going to be a

sandpit, it will be a waste tip afterwards. So, all of these issues come up based on our old records of what the site was like.

Heathland only exists at all because of human occupation; it is perceived as wasteland in much of the U.K. just as it is worldwide. Because the species on it are very discreet and often small, they are hard to understand. If you have not got public understanding, that leads to public abuse. And that stretches right through to the developers.

Students use ancient records, refer to old observations and use modern techniques to associate them with the past. We do our teacher training in the same areas. Teachers spend their days in detailed studies of habitats as well as teaching techniques. Student work is interactive, constantly evolving, and challenging. It doesn't matter whether or not that work is technically challenging to you, the teacher, it must be challenging to the students.

We must be pushing our children just as far as Gilbert White was pushing himself. We laugh at what he did, we laugh at the tortoise, we laugh at the fact that he suggested there was some truth in the local idea that some of the swallows would hibernate under ponds in the winter. We say, "How stupid." But, think about the observations he was making, the observations he was receiving from friends and colleagues. These were saying that birds were coming out of ponds, flying over ponds, puddling around the edges very early in the season, long before any had been seen flying over the coast, perhaps because the one or two early ones had been missed. We laugh at the fact that he shouted at a hive of bees with a trumpet (to see if they could hear). Why do we laugh? Do we know? Yes, with two hundred years of science behind us in addition to the work that he did. Somebody had to be the first one to shout at bees, to find out if they could hear. He did it, he recorded it. He started to theorize about whether the animals that he saw outside were related to each other on the basis of how they behaved. The Willow Warbler, the Wood Warbler and the Chiffchaff were all thought to be one species before he spent hours going outside looking at whether or not they behaved the same, whether they nested in the same way, and they did not. White concluded (by the specimens he collected as well) that, in fact, they were different species. That was proved to be so.

Gilbert White was the first to find the harvest mouse as a species. The harvest mouse is one of our smallest mice. It has a prehensile tail, lives in grasslands, and makes a small ball of a nest within which can be five or six young. White records getting hold of a nest full of live young, which is about the size of a small tennis ball, and he rolled it across the table. Not one of the babies fell out, so he started to write and discuss, Why did this happen? How did the mother get into and out of the nest? He discovered that the mother actually parts all of the grasses to go in, pulls them closed again and when she leaves the nest. His work was out of doors--it was observation, it was recording--it was essential to what we are doing now.

Our Field Studies Centre is charity funded partially by our local County Educational Authority, rather like your state educational authority. Then, we raise a small amount per capita, paid either by the school or by the children themselves. How do we make it

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relevant? It's relevant because it is part of their heritage. It is our job to make them see, whether they are urban children or rural children, that the world in which they live is theirs. Anybody only owns land for the span of their lifetime. We need to ensure that they have an appreciation of this. You can't impose value without understanding.

I think that one of the problems with development, is that we've allowed perhaps a generation to go through in the sixties, who are now in the positions of power, who did not get the opportunities we are trying to give the children now. To say, not just, we'll go and look at this piece of land, but we'll go and look at this piece of land and try and find out how it works. How is it relevant? How is it relevant to global warming? How is it relevant to the lack of water? Why does it matter that the stream the children are working in, the stream Gilbert White records as having a range of fishes, now has only one species? What has changed? The change is in the way in which water is consumed in our area. How does that relate to global consumption of water?

We have a national curriculum that requires our children to be involved in the natural world. It requires them to have an understanding of environmental sciences along with other mainstream subjects. In a day outdoors with a group of children, we cover geography, math, science, history, English, the arts, anything that our teachers want to do, which is within the academic capacity of the staff of our centre, and if it isn't, we make sure very soon that it is within our capacity.

We have a very content heavy national curriculum. We work with it, not against it. We say, "You have a requirement to achieve a certain number of subjects, certain standards in these subjects, it is our job to show you a way to practically apply them." Many students are great when they are sitting in the classroom, they've got the books, they've got the structure, they can do it. Ask them to do it in practice and work it out for themselves and use equipment to find the basic data, and all of a sudden, life is not that simple. The able can even out with the lower achievers. Because for the lower achievers all of a sudden it's there in front of them, it's in three dimensions, and more attainable.

Every day is different. Last week, for example, before I left I spent two days with seventeen and eighteen year olds doing basic biology on fresh water ecosystems. The next day, I was working with four year olds who had never visited a woodland before. So, the group requirements are paramount, not only prescribed work from us. We work in concert with our teachers, because there is no way they can afford the time or money to come to us unless it is related to the curriculum. There will be those who go away saying they hated it. But, as far as I can recollect that's only maybe .1 percent per year. I've failed if they do not enjoy their work outside.

Where do we go physically? The existing Centre is too small. The Trust has reconstructed a seventeenth century barn, moved from about five miles away that has been donated to us. Finishing the new Centre will be expensive and take time. However, that's only the building. To us, our resource and what matters, is out in the countryside.

I have found that there is no way to ever teach children aesthetics. What we need to do is put them in the way of it as often as possible, and not be afraid to let them see that it matters to you. It matters to you as an individual and it matters historically. We are only the sum of our history. We're only what has gone past.

We have to teach children our history and put it into the future, and give children opportunities to make that future work. We have to allow the natural world to survive around them, because if the natural world doesn't survive, then humanity stands no chance whatsoever. Gilbert White never used emotive terms like that two hundred years ago, I don't think he needed to. Social and environmental pressures are so great today, I think I need to.

Helen Bowdoin
The Thoreau Institute, Lincoln, Massachusetts

Text of a video documenting the history of Walden Woods:

Have you ever wondered how America happened to preserve its millions of acres, its wilderness, national parks, national forests and wildlife refuges? It's possible to trace the original concept of wilderness preservation back to one extraordinary person who lived over a century ago, and to one special place in America. The person is Henry David Thoreau. The place is Walden Woods.

(Thoreau: "A farmer told me, in all sincerity, that having occasion to go into Walden Woods in his sleigh, he thought he never saw anything so beautiful in all his life.") In 1845, Thoreau built a small cabin near the shore of Walden Pond, a beautiful and pristine woodland lake, surrounded by square miles of pine and oak forest. Thoreau moved to Walden Woods on the fourth of July and lived there alone for two years, two months and two days.

(Thoreau: "I am thankful that this pond was made deep and pure for a symbol. While men believe in the infinite, some ponds will be thought to be bottomless.") In the decades since the publication of Thoreau's *Walden*, its reputation and influence have grown dramatically. As more and more people throughout the world have come to appreciate it as a literary masterpiece, they also recognize the importance of humankind's relationship with the natural world. Thoreau's wilderness message has inspired and guided generations of conservationists, including John Muir, Aldo Leopold and Rachel Carson. While living at Walden, Thoreau also began to develop his influential theories on passive resistance to legalized social injustice, such as slavery. After returning to his home in the village, he assembled his ideas in an essay titled "Civil Disobedience", which has influenced some of the great liberators and thinkers of our time, including Mahatma Ghandi, Martin Luther King, Jr. and John F. Kennedy.

Walden Woods covers more than four square miles in Concord, Massachusetts, and the neighboring town of Lincoln. Even today, most of Walden Woods is still forested. Some of it is protected as private or public conservation land. But, many of the environmentally sensitive and historically significant areas are vulnerable to the threat of commercial development. Past land use practices have also compromised sites in Walden Woods. For example, the Concord landfill near Walden Pond which is now slated for permanent closure, posed a serious threat to Walden Woods for the past several decades. The Walden Woods Project is committing a portion of the financing necessary to insure that the landfill site restoration is done in a manner compatible with the Walden Woods ecosystems.

In the mid-1980's, an office building and a condominium complex were poised for construction on two unprotected sites near Walden Pond. The threat to the entire area was so severe that the National Trust for Historic Preservation added Walden Woods to its list of America's eleven most endangered historic places. The condominium complex

would have been built on Bear Garden Hill, one of Thoreau's favorite areas for long pensive walks. The office park was planned for Brister's Hill, a site not far from Thoreau's cove at Walden Pond. Brister's Hill was one of the primary areas in Walden Woods where Thoreau developed his scientific theory of forest succession, a cornerstone of modern day ecology. Brister's Hill is adjacent to Concord's beautiful town forest and to historic Brister's Spring. Nearby is Tuttle's Lane, a secluded woodland path that was used by a who's who of Concord authors including Ralph Waldo Emerson, Nathaniel Hawthorne and Bronson Alcott.

(Thoreau: "If here is the largest boulder in the country, then it should not belong to an individual, nor be made into doorsteps. In some countries, precious metals belong to the crown, so here, more precious objects of great natural beauty should belong to the public.") A Concord-based organization, The Thoreau Country Conservation Alliance, called attention to the plight of Walden Woods, and in response the Walden Woods Project was founded by Don Henley in April 1990. Comprised of a diverse coalition of authors, historians, entertainers, political leaders, business leaders, and environmentalists, the Project's immediate goal was to preserve the sites threatened by commercial development with the assistance of the Trust for Public Land, a nationally known land preservation organization. The Walden Woods Project acquired Brister's Hill and Bear Garden Hill from the developers. This land will now be preserved in its natural state for future generations.

To date, the Walden Woods Project has raised over $15 million and has protected a total of 96 acres. In spite of this success, much remains to be done. Additional land must be purchased and conserved and a long-range management plan must be implemented. In July 1994, the Walden Woods Project acquired an eighteen acre site in Walden Woods, including an historic estate. It will become the Thoreau Institute and will house the world's most comprehensive research library on Thoreau and his contemporaries. A collaborative effort of the Walden Woods Project and the Thoreau Society, the Institute will offer curriculum to public schools and will provide scholars with overnight accomodations and an opportunity to study Thoreau in the midst of the author's living laboratory, Walden Woods.

A $6 million endowment must be raised for the Institute and an additional $4 million is needed for construction and renovation. The Walden Woods Project has conducted an aggressive fund raising campaign. The first Walk for Walden Woods was held on April 12, 1992. Actors Ed Begley Jr., Harry Hamlin, and Kirstie Alley joined Don Henley and seven thousand walkers on a ten kilometer pledge walk around historic Concord. In addition, benefit concerts and other special events have generated income for the project, as have foundation grants, private gifts, and support from federal and state agencies. And in a future effort to raise funds, the Walden Woods Project and American Forests Global Relief Program are selling trees grown from seed collected in Walden Woods. The small trees, twelve to eighteen inches tall, can be purchased for $35. Sales proceeds contribute to the protection of Thoreau's Woods. Supporters of the Walden Woods Project such as Tom Cruise, Jack Nicholson, James Michener, Whoopi Goldberg, Kurt Vonnegut, Senator Ted Kennedy, Bette Midler and Don Henley have written a book titled *Heaven is Under our Feet*, which is comprised of 67 chapters, each a different essay on the environment. All royalties from the sale of the book are donated to the Walden Woods Project.

Walden Woods, the original source of Thoreau's concepts of land conservation, has inspired the preservation of millions of acres of wilderness throughout America. We must work together to ensure that this important symbol of our environmental and cultural heritage will at last be given the protection it deserves.

(Thoreau: "I look down into the quiet parlor of the fishes, abated by a softened light, as through a window of ground glass, with its bright sanded floor the same as in summer, there a perennial waveless serenity reigns. As in the amber twilight sky, corresponding to the cool and even temperament of the inhabitants. Heaven is under our feet, as well as over our heads.")

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Helen Bowdoin

The Thoreau Institute has a three-fold mission: To bring together the study of literature and the land, to reach people with Thoreau's message, and to encourage a commitment to responsible land stewardship. It's an enormous pleasure for us to collaborate with the Roger Tory Peterson Institute on the Selborne Project. The educational missions of our two Institutes are closely matched. In July, we are bringing a group of Massachusetts teachers out here and we look forward in coming years to holding similar workshops back in Lincoln.

The Institute won't open formally until the spring of 1998. Thanks to three very generous donors the new library and archives building will house the most comprehensive collection of books and materials by and about Thoreau in the world. A sophisticated media center will launch Thoreau into cyberspace. Thoreau's works, related commentary, graphics and educational programs for teachers and students and the general public will also become accessible over the Internet. We will be offering classroom link ups and aim to put teachers and students from far and near in touch to share their work together. On-site educational programming for teachers and students at all learning levels also is under way. We invite teachers to come and visit.

In 1720, Gilbert White was born in the English village of Selborne. In 1817, nearly one hundred years later, Henry David Thoreau was born in the Massachusetts town of Concord. In 1908, Roger Tory Peterson was born, here, in the community of Jamestown, New York.

Their lives spanning three centuries, each of these men left an indelible mark on the fields of natural history, literature and art. The common threads surrounding their work are strong and interwoven. Each grew up in rural or semi-rural surroundings, each was a meticulous scholar, each a lifelong student. Each possessed an undying passion for nature, and, thankfully for us, the talents to express that passion through a lasting legacy of art and literature. That all three have nearly universal appeal, may be partly because they knew how to reach and excite ordinary people like ourselves, who want to explore the world of nature and learn with them.

So what's the connection between Thoreau and place-based education? And if there is one, who really cares? The connection is that what goes around, comes around; the latest trend of place-based education can easily be traced right back to Thoreau, Gilbert White, and others.

While most of us are familiar with Thoreau as a writer and naturalist, we are not all aware that he was also a surveyor, inventor, philosopher, and poet. In this extraordinary

confluence of talents lies much of his genius. So what did he want to do after graduating from Harvard (which he found boring)? Teach. "What does education often do? It makes a straightcut ditch of a free meandering brook," he said, hoping perhaps to make a break with traditional teaching methods. Here is an excerpt from one of his letters in 1837, the year he graduated. Notice this was radical thinking for the time: "I seek a situation in a small school or assistant in a large one. . . . I would make education a pleasant thing to both the teacher and the student. This discipline, which we allow to be the end of life, should not be one thing in the schoolroom, and another in the street. We should seek to be fellows with the pupil, we should learn of, as well as with him, if we would be most helpful to him."

Thoreau succeeded in landing a teaching job in Concord but the experience proved a failure. Asked to flog a student, he was repelled at the notion of beating as a routine activity so he quit only days after he had been hired.

Undaunted, he founded his own school. It thrived, and he was joined by his brother John. It closed several years later only because of John's poor health. As a teacher beloved by children throughout his life, Thoreau did take his pupils out into the street and beyond. It is likely we can credit him as inventor of the field trip, with no permission slips, no buses and no lunch money. A favorite destination was Calla Swamp, a wetland at the northern end of Concord, today, still filled with a rare diversity of plants and animals. A spot to explore, no doubt, and for teacher and students to learn together. Probably some time for free play at the end of the day too. To Thoreau, it was clear that children who develop an appreciation and understanding of their home communities--what today we call place-based education--gain a directness, immediacy, even an intimacy that no text can rival. And he likely would have added that no video or TV program can rival either.

Like White, Thoreau spent nearly an entire lifetime walking, studying, and writing about his home town. Contrary to his stereotype, he took a keen interest in many of the townspeople and farmers; his favorites tended to be the down-and-outers. He strongly and publicly opposed slavery and was active in Concord's Underground Railroad.

Thoreau understood the value of studying interconnections between the natural and cultural histories of our home ground. Thoreau well knew that Concord harbored a surprising diversity of habitat; that it once had been a Native American settlement, that it held a proud place in colonial history. But beyond that he had the vision to see as no one else before him that every community has its own rich and layered stories to tell. He saw that every community has its own Walden.

Kids who are encouraged to draw their own maps of a place special to them, who learn the history of an old building nearby, mark the seasons, identify, sketch and write about their favorite trees and wildflowers, birds, insects and mammals, these are the kids who develop special respect and understanding for a place. What we see, touch, feel

and come to understand first hand, we want to care for and respect. Thus, with guidance, will students identify their own Waldens, whether it be a stream, an historic building, a five-acre field, a vacant lot, or an entire community. Stewardship of place follows naturally enough when we combine love of beauty with the close understanding that is gained through direct experience.

As Thoreau infused Walden with symbolic meaning, so he did with Concord. For him Concord was the world. He understood then what many of us since have overlooked--that before we try to understand what's happening half a world away, we learn about what we have (or may be losing) here at home. As a young man, Thoreau watched as Concord began losing its few remaining woodlands--cleared as the scale of farming grew to meet the expanding agricultural markets. Thoreau fled to Walden Woods to live and write. He subtitled *Walden "Life in the Woods."*

Only three years before his early death at forty-four, Thoreau wrote in his journal:

"Each town should have a park or rather a primitive forest of five hundred or a thousand acres, where a stick should never be cut for fuel, a common possession forever, for instruction and recreation . . . inalienable forever. Let us keep the New World new, preserve all the advantages of living in the country. All Walden Woods might have been preserved for our park forever, with Walden in its midst. . . . A town is an institution which deserves to be remembered. We boast of our system of education, but why stop at schoolmasters and schoolhouses. We are all schoolmasters, and our schoolhouse is the universe. To attend chiefly to the desk or the schoolhouse while we neglect the scenery in which it is placed is absurd. If we do not look out we shall find our fine schoolhouse standing in a cowyard at last."

Thoreau said once, "I have never got over my surprise at being born in the most estimable a place in all the world and in the very nick of time, too." When he was thirty-six, he wrote in his journal, "I cannot but regard it as a kindness in those who have the steering of me that, by the want of pecuniary wealth, I have been nailed down to this my native region so long and steadily and made to study and love this spot of earth more and more. What would signify in comparison a thin and diffused love and knowledge of the whole earth instead, got by wandering!"

I'll tell you a little story, a sort of a community fable, which has unfolded in Concord over the past eighteen months. Concord never much liked Thoreau. He was far out--weird. Why wouldn't he just fit in and act like everybody else? His clothes were a little funny, he spent way too much time outside walking, apparently not working.

That attitude persisted, surprisingly, right down to the present. So when Thoreau's birthplace, a lovely old farm, came onto the market over a year ago, few people in town noticed or cared. But those few shouted loudly and long enough into the ears of the Concord selectmen to wake them up. Finally they decided they cared too. The local press woke up and ran prominent articles on the famous 18-acre farmstead threatened by suburban tract housing. Third graders wrote letters to the newspaper's editor. In twelve months time a real partnership of town officials, grassroots groups and private citizens put together $960,000 of state, municipal, foundation, and private funding necessary to purchase and protect the property where Thoreau was born.

The naysayers, the "you'll never do it" crowd, lost out. But the best moment came just at the end of April when the conservative town finance committee mailed its annual report to every household in the Town of Concord prior to Town Meeting. There on the cover was a picture of Thoreau's birthplace, displayed as a real estate ad, dramatizing the urgent need to save it. As it happened, the cover was the brainchild of two clerks

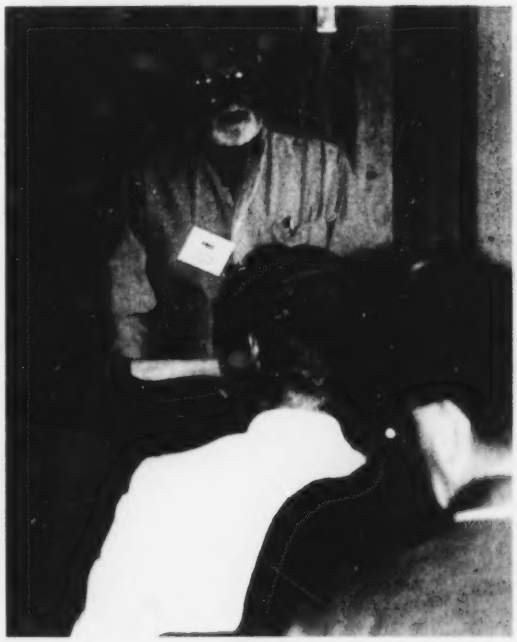
who worked at the town hall. And it wasn't until we learned who had thought of it, that we knew the entire community had pulled together at last in a townwide push to save the home of someone whom everyone had learned to care about.

Father of the twentieth century's conservation movement, Thoreau was able to see the need to study the entire fabric of a community's life--the built environment and the natural environment, the people and the places, the plants and the animals--in the past and in the present. His was a lifelong search for harmony or "concord" between people and nature. He found that concord in his own life, and he pointed the way toward it for all of us who reflect deeply and often on the meaning of his writings.

Whatever our age or stage in life, there's always more to learn about our home place, more to discover and appreciate, and more to find that we care about and want to care for. Coming home, if we choose, can become a lifelong practice which will enrich our own lives and those of our students, and invigorate our entire community.

PLACE VALUE:
Experiences from the Rural Challenge

Paul Nachtigal



What I would like to do is lay out pieces of the frame for place-based education, both in terms of the larger Annenberg Challenge, of which the Rural Challenge and this particular project are a part, as well as basic issues about school reform, and the rationale for why the Rural Challenge is doing what it is doing.

A little background, particularly for those who may be new to this endeavor, and your first association with anything called a "Rural Challenge." In 1993, Ambassador Walter Annenberg made the decision to give away $500 million dollars of his own wealth to address the issues of school reform in this country. It is certainly the largest philanthropic gift that has ever been given to public education. It is a challenge, which means that he wants his money matched by private and public money, to work on school reform issues.

It began with a series of urban challenges; there were five, originally: Los Angeles, San Francisco, Chicago, New York, and Philadelphia. Somewhere along the way folks began to talk to his advisor, who happens to be the president of Brown University, and persuaded him that if he was really serious about public school reform, that he had to pay attention to those schools which are outside of the urban centers. So we began to work on a Rural Challenge, which is a fifty million dollar effort, five years, to be matched dollar for dollar, and we got underway on the first of July in 1995.

The challenge is very much a decentralized effort. Each city has its own culture, its own social and economic dynamics, and each operates within the particular political and policy environment of that state. So the approaches which the various challenges have taken have had some similarities, but also some differences. This is certainly true also for the Rural Challenge, which is a national project. We work in all fifty states. Each of those states is a very different entity. In general, the urban challenges have worked in a fairly traditional way, from my perspective, around the business of school reform. They are focusing on ways to try to improve student achievement, very much on what happens within the educational institution itself.

Interestingly enough, one of the strategies they are using is to try to make small schools out of big schools. New York City is working very hard to try to get community sized schools operating where there are some of the strengths, which we have realized, in small rural schools. The Rural Challenge is a bit different, it is more concerned with working with sites who are interested in reexamining some of the fundamental questions of purposes and processes of education. It is not just about, "How do we improve student achievement," although that is important. The Rural Challenge carries out its work with four different initiatives: the providing of grants, of which Selborne has one and there are now 24 other projects which are up and underway; a public policy initiative, which is headed up by Marty Strange, a public engagement effort; and a large evaluation effort, headed up by Vito Perrone of Harvard, and we have at least two evaluators attending this meeting.

Taken as a whole these four efforts, the grants program, the public policy, the public engagement, and the evaluation, in a sense, provides a framework for an on-going forum, an on-going conversation about public education in rural America. In our more optimistic moments, when we talk with our colleagues from the cities, we think we have some things to teach them, as well.

The Rural Challenge brings a particular perspective to the business of school reform, which will unfold as we go on.

It seems to me that there are three central issues that we need to address in this ongoing conversation. It is around some fundamental questions, the first of which is "What is education for?" A second is "Whose interests are being served?" very closely related to the first, obviously. The third critical issue is "Who gets the say about what happens in public schools?" Those of you that took history of education will recall that whatever is not clearly defined at one level of national, state, and local decision-making gets passed down to the next local level. If you look at the federal Constitution, there is nothing said about public education, so that becomes a state function. Historically, the states have handed that responsibility down to local communities and down to local school boards. So decisions about public education have been very close to local communities. Within my lifetime, there have been public schools in central Kansas, in small German communities, where school lasted eight months rather than nine. As soon as public school was out, German school started in the same building, with a curriculum defined by local communities, to meet the needs of those communities.

We have come a long way from that, and Dr. Cooper presented a very different world view of how education is in the country, at this point. If you think a bit about purposes of education, from what he said, the primary purpose is economic gain, economic competitiveness, not only within this country but at the global level, that is the bottom line for the purposes of education. If you think about who gets served in that kind of a system, my indicators are taking a look at the stock market, and the fact that if unemployment gets too low the stock market drops. There are some folks who are benefiting and have made decisions about how education operates that have some fairly narrow interests.

You will discover, as we go along, that Dr. Cooper's world view and my world view of what education is about are two different things. We've gotten to this place over a long period of time. In 1914, Elwood P. Coverly, who was one of the education professionals at the time, who was one of the notables who set public education on the path of adopting an industrialized factory model of education, a common urban model, in many ways, of how public schools operated, had this to say: "Don't underestimate the problem of school reform, because the rural school is today in a state of arrested development, burdened by educational traditions, lacking in effectual supervision, controlled largely by rural people, who too often do not realize either their own needs, or the possibilities of rural education, taught by teachers, who generally speaking, have but little comprehension of rural life problems. The task of reorganizing and redirecting rural education is difficult and will necessarily be slow."

If I heard the message right yesterday, we are much in the same position. There are folks out there who are defining what the problems of schooling are and the solutions for those problems of schooling. The consequences of that approach to public education have been particularly difficult for rural places in at least three ways. One, the agenda for public education has indeed moved further and further away from local communities to the state and national level, contributing to the growing schism between schools and communities. Schools have become a part of a specialized system whose purposes have been defined somewhere else, and whose interest is being served out there, somewhere.

This factory model of schooling, far too often, equates quality and quantity. Bigger is better. And because rural schools and rural communities are always smaller, by definition they are also always second best. We've lived for a long time with the depictions of rural America, on television and in papers, about the Beverly Hillbillies, and if, in fact, you really want to be successful, you leave rural communities. What this model of schooling has done best, is to educate rural students to leave their local communities, to find a job somewhere else. That's bad news if we want to keep a healthy rural sector in this country.

One way of looking at public education, is that it is a conspiracy, if you will, of a whole set of forces of an extractive society which sees rural communities as the headwaters of that extraction. Whether it's timber, agriculture, mining, or human resources, this country has extracted those resources from those rural places and put very little back.

That's one view of education. I'd like to suggest that what we are about is quite a different view, and start this piece by quoting from Wendell Berry, a farmer in eastern Kentucky, a writer, a poet, a philosopher, and an educator. He says, "My approach to education would be like my approach to everything else, I'd change the standard. I would make the standard that of community health, rather than the career of the student. You see, if you make the standard the health of the community, that would change everything. Once you begin to ask, 'What would be the best thing for our community, what's the best thing we can do here for our community?' You can't rule out any kind of knowledge. You need to know everything you can possibly know. Once you raise the health of the community, all departmental walls fall down. You can no longer feel that it is safe not to know something. You begin to see that these specializations aren't separate at all, but are connected."

That is a different view of education than individual achievement, than individual competition, than getting to the top, than just having education be career development. It seems to me that you can argue this approach to education from a number of perspectives. We know that learning becomes more powerful when it is hands on, when it is engaged in real problem solving, when it is experiential, when it is focused on local place, connected to individual students' past understanding. We know learning is more powerful when it is interdisciplinary, when it is done cooperatively with others, and when it results in a product that is useful to someone else.

David Orr, in his book, *Ecological Literacy*, argues that place-based education is important for four reasons. First, it requires a combination of intellect with experience, direct observation, investigation, experimentation, and skill in the application of knowledge. Second, the study of place is relevant to the problems of overspecialization, which has been called a terminal disease of contemporary society. That is reinforced all the way along in the way schools are organized, in the way teachers are trained, in the way we think about content, in the way we think about educational purposes. Third, the study of place is important in education or reeducating people in the art of living well where they are. Living well in community may well be the ultimate goal of education. Finally, knowledge of place, where you are, and where you come from, is intertwined with knowledge of who you are. Landscape, Orr says in other words, shapes mindscape.

We happen to be privileged to live on the side of a mountain in Colorado, with a hundred and eighty degree view of Lake Granby over to the Continental Divide. You think differently in that kind of a setting than you do in another setting, where the office is, for instance. It is hard to think small thoughts as thunderstorms roll across that valley and when rainbows appear to grow out of the water, it is a different perspective.

So here we are, the Selborne Project with its in-depth study of a square kilometer of

land, which not only helps students know that particular place in depth, but provides the skills to know other places as they journey throughout life.

The Rural Challenge now has 24 projects, probably involving upwards of 200 schools and communities, all engaged in some way in developing place-based education. All of them, in some way, reconnecting schools with local communities. Geographically, they range from Alabama to Alaska. From Alabama, where they are doing a lot with local histories, where students are publishing community newspapers, where they are involved in organic gardening, where they are engaged in creating community celebrations around music and local stories, to a project in Alaska, which involves all five native groups, and is an attempt to bring together native ways of knowing with western ways of knowing, so that native students can be educated within their culture rather than outside their culture. Projects range from the Rio Grande Valley to South Dakota, where they have done an economic study of that community related to lagging sales tax receipts. The students have been given credit for increasing those sales tax receipts by 27% or $7 million, by surfacing to that community the fact that if you would spend an additional 15% of your income within this community, it would become healthy economically. By raising those issues, by surfacing that conversation in the broader community, they have contributed directly to the viability of that community.

Each of these projects, it seems to me, is revisiting those three central questions. What are the purposes of education? Whose interests are served and who gets the say? They are taking back some responsibility for making those decisions. I know that is taking place in a very hostile policy environment, if that is your perspective. Not only in New York, but for sure in Pennsylvania, and for sure in most of the other states across the country. I'm persuaded, and I could be totally wrong, that the waves of reform that Dr. Cooper so nicely spelled out yesterday, and the failures of those reform efforts were not failures because there are not smart people around or the intentions are not good, but it seems to me, a fundamental rethinking is needed, which does, in fact, reconnect the process of education with life in communities, which does, in fact, relate purposes of education back to a reality which students connect with. Taking it out of the abstract textbook-sitting-on-your-desk way of thinking. So I think they all do address those three important issues of the purposes, of whose interests are served, and who gets the say.

Now comes the hard part. We have this array of projects and we will have some additional ones before we are through, but there are some really tough questions ahead about how we move this approach to teaching and learning across the curriculum on all grade levels. We heard wonderful examples from England yesterday. If that is good education for a day a week, why can't that be good education every day of every week? How do we use these experiences to ground an ever expanding, ever richer conversation in each of these communities, and other communities across the country, to get a different conversation about the role of public schools? How do we use these experiences to shape public policy so that the rules and regulations which stifle a more powerful approach to learning may be changed? Fortunately, that is Marty's job, but we are working together on this, and it is a very, very tough set of issues.

So this is the work of the Rural Challenge. In a recent meeting of the board, they came up with a fairly concise statement. The Rural Challenge is about good schools--public institutions--serving and served by their communities. These schools and communities are working together on academic excellence, and the capacity to live well sustainably. Both are important. We encourage schools and communities to act on the belief that every person contributes to our shared culture. Nobody is thrown away, we are not interested in educating only the elite, those that are first in the world in math and science.

Finally, we are interested in working with schools and communities connecting to the local, natural, and cultural resources--grounding the curriculum in that local place. This is the work that we are about. It is fairly ambitious. I believe we will never accomplish it in my lifetime, but we have a chunk of money, and we have some time and, we think, some ideas that are worth pursuing. We are pleased that you are a part of the conversation, and I wish you well in this work, and in our efforts to weave all these projects in this conversation into a different world view for public education.

SUMMARY REMARKS

Marty Strange

I am a recovering economist. Economics, as you know, is a discipline which is designed to study pettiness. I was pretty good at it for a long time, but I found out the more I got involved in life, that the world does not work the way economists think it is supposed to. It reminds me of Mark Twain's observation when he first went to Washington, D.C. as a cub reporter. He wrote home to friends in Missouri, "When I first got to Washington, D.C., I found myself in the constant company of drinkers, gamblers, and adulterers. I quickly concluded that this was no place for a Presbyterian. And so, I did not long remain one." I found out that the world is full of interesting people who don't behave the way economists think they are supposed to, so I didn't remain one for very long.

Place-based education, from what I hear you folks saying, from what I hear my colleagues in the Rural Challenge saying, and from what I feel instinctively, is important because it mitigates against the rootlessness that is endemic in our society. The objective is plain--it is to teach respect for place and community. It is not to tie anyone to a place or a community, as if they were a slave to it, nor is it to turn appreciation for place into some kind of zealotry or excessive patriotism. It is not that a place becomes important because we are part of it. We must be careful to keep these distinctions in order. In a sense, if you think about this as home, coming home or being able to go home, may be more important than being home all the time. Being able to make a home no matter where you are is perhaps the most important. But to do that, you have to have had home and you have to have had respect for and a love for a place called home. That is what we are talking about when we talk about place.

This is very philosophical, and I apologize for that, because if you are going to get involved in public policy, which is what I work on, it is important to be rooted. Otherwise, you commit one of Ghandi's seven sins--politics without principle. It is very important to be well rooted in a philosophy and understanding of where you come from if you want to be involved in politics with principle.

I think that another thing about the place-based education movement, which is important for us to think about is that loving the earth, without knowing and loving a place intimately, is like loving a nation without loving anyone in particular. It leads to ebullience, zeal, and excitement, but not much thoughtfulness or understanding. It argues against taking personal responsibility for your behavior and for relationships. It encourages platitudes, hypocrisies, and emptiness. Unfortunately, I see too much of that in the politics of my friends, myself at times, but in the environmental movement we get all wrapped up in a righteousness about the big picture. Meanwhile, we are drinking out of styrofoam cups and doing things that we know are not right, and I put myself right in this list. It is important that we recognize that place needs to be the antidote. The appreciation for place, the respect for place, understanding of place, the rootedness and the groundedness of place, is an antidote for hypocrisy. When people talk about real people, who are they talking about? They are inevitably talking about somebody who is rooted in a place and has a keen sense of who they are in relationship to that place. In that sense, place is, of course, not just a physical thing, it is a relationship, it is an attitude, it is an artifact of the mind, and it is about meaning and not just about location. So it is not ironic, in fact it is meaningful, that we can be alone in a crowd, and we can be placeless anywhere.

I thought about that last night as I was listening to speeches in the Holiday Inn. I have been in that building before, a thousand times, and when you are in that building you don't know where you are. I'm one of those people who travel so much, I wake up in a hotel room and I have to look at my calendar to know where the hell I am. I can't remember. Those buildings are deliberately built to be placeless. It is not like this place, the Roger Tory Peterson Institute. You will remember this place. You will remember some of the things that were said here, because it is unique, it is special in its own way. The attempt to root place out of our culture is very powerful, and the place-based education movement has to be about putting it back in, insidiously, in every way possible so that we will have a respect and understanding for place.

I thought about my friend and former colleague, Lester Thurow, who Dr. Cooper quoted last night, a prominent economist from MIT. You recall the example Dr. Cooper used was about Lester's being impressed with the Korean automobile manufacturing plant that had Japanese design, somebody else's capital, and somebody else's building a car for Americans. I think Lester looks at an automobile plant in Korea and sees no place in particular. I look at a complex field of prairie grasses and flowers in central Nebraska, and I see the potential for peace and justice and sustainability every place in the world.

I think that it is important that we recognize that when we talk about place, we are not talking about any place, we are talking about every place. To talk about "any place" is a way of disclaiming place, it is a way of again advancing placelessness as a concept. Every place cherishes the idea of place. It is kind of like anybody can run a machine, the mentality of the industrial revolution. In fact, it is the mentality of the information revolution. The idea that everyone counts, that is an idea that has to do with democracy, cooperation, church, common school, and a lot of other things that are a part, an important part, of our culture, but a part that is at risk.

I want to talk just a little bit more about this idea that every place is important. One of the things that I hear too often is what I might call place worship or elitism. There are beautiful places in the world and it is nice to be in them, but if our movement here has any meaning, it must only be to appreciate every place, and to recognize that no matter the place, it is important because it represents the opportunity for understanding. I think the plainer the place, the greater the opportunity. Plain places and harsh places bring out the best in us. They force us to think past, not be distracted by the beauty that is around us. I lived in Nebraska for 27 years. There was a paper written by some Rutger's geographers who talked about the fact that a great deal of the Great Plains was depopulating, especially during the farm crisis. The paper was called "The Buffalo Commons." It was a proposal to turn back vast regions of the Great Plains to the buffalo, to create a national park. The last-one-to-leave-turn-out-the-lights kind of argument.

One of the things that the authors, who relished the controversy they created, (and by the way, I know the people and they are friends of mine and this is not a personal thing) talked about was how the Great Plains was basically uninhabitable anyway because the weather was so terrible. Well it is, but then we know a nice day when we see one. You show me a place where the sun always shines and I'll show you a place where most people who live there spend most of their time in their air-conditioned cars in traffic jams. They don't spend time outdoors, enjoying the place.

We can turn beautiful places into placeless places with our culture, our practices, and our behavior; plain places don't let us do that. Plain places are very special, they are a little bit like the autistic child, they separate those of us who love for its own sake, from those who love only the things that are beautiful and easy to love. It is an important distinction. To paraphrase Abe Lincoln, God must have loved the common people, he made

so many of them. I'd say the same thing about plain places. To the eye they are not beautiful places, or put differently, they are beautiful to the beholder.

Do you need a place to have a community? Community is one of those words that gets used in an awful lot of ways in our society. It is always used in a positive way, and it is always used to sell something to somebody. It is one of the finest public relations words in the world, because we all have soft and pleasant notions about community. I don't. I'll just tell you plainly the way I look at it. Community is a pain in the ass. But it's a real important pain in the ass.

Ecologically speaking, the only level with which life is sustainable is the community level. It is not sustainable with the individual level, we can't breed by ourselves. The individual is not a sustainable unit. The family is not a sustainable unit, because genetic inbreeding within the family produces dysfunctional generations, as generations of idiot royalty have proven. The family is not a sustainable unit, it is an important unit, it is important in many, many ways, but it is not a sustainable unit.

The species is not a sustainable unit, because if you eat your own species you will produce inbred diseases that debilitate. Mad cow disease is an effect of cows eating manure and bone and other bovine material. The unit of sustainability is the community and it is very important.

What is a community? It is a place where species interact, interdependently, through a series of relationships that maintain very delicate balances and cycles of life. Go back to your basic ecology and biology textbooks, look at all the nutrient cycles and all the rest of it presented very nicely, but it is the relationships that are important and not all of those relationships are pleasant. We have cooperative relationships, supportive relationships, sacrificial relationships, and those are all important. We also have competition, parasitic behavior, predatory behavior, and those all play roles that are important, but they are all mitigated. When we add the human element, which introduces morals and ethics into the equation, those relationships which are considered negative must especially be kept in their place.

One of them is competition. Competition is a very important positive in our economy, there is not a shred of doubt about it. I don't want anything I say to leave you with the impression that I don't think competition is important. I have worked harder to introduce competition back into the livestock industry in this country, which is riddled with the monopolistic practices of large corporations, than anyone I know. So I am all in favor of competition, but competition is like anything else, it becomes an obsession. It can destroy if we think only about competition. One of the things that worries me about education reform, is exactly what Paul Nachtigal talked about a minute ago, and that is the idea that we just need to tool children for a competitive life in the economy. I want them to be competitive, but I want them to think about more than that.

I have a five-year-old son. On Martin Luther King Day we were watching television, footage of the desegregation of Little Rock schools in 1957. That was my first memory of television news, and it was important shaping my life. I was thinking about it, reminiscing, and rather enjoying it. My son was sitting next to me on the couch, and suddenly I realized we were watching actual footage of adults shouting at those children. The hate in their eyes was powerful. My son was sitting next to me, and he was alarmed. He got very agitated. He turned to me, and he said, "Why?" I kept waiting for him to go on, get me off the hook. I was silent and he said again, "Why, Dad, Why?" and I realized I graduated with a 4.0 in economics from graduate school and nothing in my education had prepared me for that question. It is a real important question and it has much to do with competitiveness. Those kids wanted to go to school because they

wanted to improve themselves. They wanted to be competitive, and the competitive motivation was a big part of that story, the story of desegration of the Little Rock schools. Those kids and their families, in that community, had decided that they wanted a piece of the American economy, and the American society. They were willing to compete for it, they wanted to go to the best schools, get the best education, the highest standards, and they were at that door demanding entry. But the important issue was why they were being denied access to that school. And for the life of me, I don't know what any teacher might have done to prepare me for that question.

It is a criticism of our educational system that questions like that don't get enough attention. Dr. Cooper made a very profound statement last night that I think I may tend to agree with, about the fact that the GI Bill was the last great piece of social policy in our society. I heard some audible gasps from some of you about that, and I myself think I would probably throw a few other things in the hat as possibilities. I think the Voting Rights Act was very important, the Civil Rights Act, the Equal Employment Opportunity Act, there were a lot of things along the way since the GI Bill, but if the GI Bill was so important, it raises a couple of questions in my mind. One is, what the hell has our society been doing for the past 50 years if nothing as important as that has come along since? Haven't we thought about anything since then? We've crossed great watersheds, nearly drowned in several of them, isn't there anything since then? The second thing is, what does the word "great" mean in that sentence, I would really like to think about that and to have an intelligent discussion with people with whom I disagree about the answer. I would like to hear why they think differently. That is what education is about.

God forbid that we should ever come to the time when there is a question on a test that a kid has to pass to get into the next grade, that asks, "What is the last great social policy in America?" I am sure that Dr. Cooper doesn't want that. I am very afraid that the policies that he advances will inexorably and unintentionally lead to that, but not if the people on the front line, you, hundreds of thousands like you, are determined to root that child, and his/her education in a place where intelligent discussion on important issues can take place. Where you can build community and learn to make your peace with people you do not like. That is what community is. That is why I say that community is a pain in the ass. It is learning how to make your peace with people you do not agree with and do not like. You can only do that, I think, in a physical space where you have to face each other on an ongoing basis, where you cannot run and hide, where you cannot turn people off like some cyberspace bulletin board and pretend it is not there anymore and not have to deal with something you disagree with. We are becoming socially dysfunctional in our society in many ways, because the most crippled institution before it is the community, not the family, important as it is. It is certainly not the school. The most important institution at risk in our society is the community, and schools have a terribly important, powerful role to play in helping to make sure that communities are rebuilt.

Norris Alfred was the publisher of the *Polk Progress* in Polk, Nebraska, a little town weekly newspaper with a circulation at its peak of about 800. He was nominated by the University of San Francisco School of Journalism for the Pulitzer Prize for his editorials. He did not get it, but he was nominated for it. He was a wonderful writer who wrote about the topics before us--community, place, justice--and he was an avid bird watcher. He did his best writing in a little column on the front page, called "Polking Around". He would start by talking about what the weather was like last week, or how the gardens were growing, or whether there was too much zucchini this year; and he would start wandering off into some discourse about something and pretty soon you were learning about the nuclear arms race or the deterioration of ground water quality of eastern Nebraska. This was one he wrote in 1979, called "Blackpoll Warblers and Illusions," actually from an editorial, not from a "Polking Around" column. By the way, he turned

to bird watching not because he was instinctively interested in it, but because he thought that if he became a good bird watcher he would have a better understanding of what the industrial farming techniques that were being adopted in his community, were having on the environment. So what he had was a pragmatic interest.

"We were watching a Blackpoll Warbler as it searched intently, purposefully, in a budding tree branch three feet above our heads. The little bird was oblivious of our presence in the Polk Cemetery as it moved constantly, pecking up edible tidbits from near leaf-bursting twigs. To that diligent devourer of nature's crumbs, we were another tombstone, albeit an enthralled one. We remained as motionless as a grave marker while watching that small bit of grand design go about its business of living. Above the trees in that narrow grove that edged the west side of the cemetery (right where he is buried today—MS), a crow was circling and muttering. To that bird, we were the invading enemy, and it protested every step. The crow was not about to mistake us for a tombstone. The crow knew that odd though familiar animal with arms instead of wings was the enemy. We are not an enemy of the crow, but it didn't know that. Sometimes enemies are more imaginary than real. Separating fact from illusion is important when determining the enemy. Thousands of evolving years went into that crow's wary watchfulness and cawing concern. We were the shape of the enemy, and the binoculars could have been a gun. The crow had no intentions of becoming an endangered species.

"The Blackpoll Warbler was a small, lively chunk of the infinite variety of life on earth and we momentarily wondered about size and significance. That little bird wasn't concerned about or even noticing us. To that Blackpoll Warbler we were of no account, insignificant. Our death wouldn't upset its programmed life. Would the bird's death upset ours?

"One bird's death would not be disturbing. If the Blackpoll Warbler joined the Passenger Pigeon, the Eskimo Curlew, the Great Auk as an extinct species, that would be cause for worry. The decline in numbers of many species is reason for worry. Each spring the sight of migrating birds is reassuring. Just as the reappearing green growth renews the spirit, so do spring warblers and a 'V' of geese. The gnawing uneasiness that human exploitation may be unsettling the earth's rhythms subsides with the spring migration. The little beasts survived another winter, the grand design is intact. Hundreds of thousand of years are in the history of present earth life. Each part fits a worked out design, a functioning, thriving whole.

"The Blackpoll Warbler flew north and found food on a Polk Cemetery tree. Accidental? Not likely. The bird demonstrated repetitious purpose in its hunger and unawareness of our nearness. The repetition has been described as machinelike, but life is more than mechanical motion honed to ten-thousandths of an inch. Earth supports life that has hopes, expectation, love, and capacity to cope with the unexpected. Machines are monotonous, predictable, and wear out. With care and conservation, the earth won't.

"As caretakers of this wonderful planet, we must separate the false from the true. The present energy shortage (this is 1979—MS) is revealing illusions and they should be pointed out. The University of Nebraska at Lincoln has published a beautifully printed pamphlet entitled 'New Technology is Brightening Nebraska's Energy Future.' The introductory sentence is a falsehood: 'Energy goes hand in hand with the quality of life.' The amount of available energy has a deteriorating effect on the quality of nonhuman life. We don't believe it has one erg of influence on the quality of human life. Quality is an elusive word when applied to living. The layout and printing of the pamphlet is of high quality. The text is not. It is a propaganda piece designed to reassure, without doing much. The thrust is to let taxpaying citizens of Nebraska know their university is

concerned about the energy shortage. If the academic community had been concerned 30 years ago, perhaps Nebraska and the United States would not be in its present energy crunch. The beautifully printed pamphlet is the reaction, not action. The money could have been better spent exploring renewable energy sources. We expect this kind of propaganda from corporations with something to sell. Appreciation is lacking for the selling of educational institutions. The pamphlet is evidence of lack of quality in Nebraska life at the higher education level."

This comment has strayed far from the Blackpoll Warbler in Polk. I don't think it did stray far. I think it was the logical conclusion of an insightful person trained to draw meaning from ordinary surroundings in his life. Trained by himself. We all ought to be trained, to the extent, where possible, educated, by our schools to draw the same kinds of meanings, arguable interpretations that may be disliked by others who are equally well educated, and in the discourse that follows, from the difference of opinion, where we make our peace with each other, and make community. That is what education is about and that is what I hope we can achieve.

Thank you for the hard work that you are doing to turn this kind of work into reality, down on the ground where it counts with the kids in school.

SENSE OF PLACE EDUCATION FOR THE ELEMENTARY YEARS

David Sobel

Let's start with singing a song together—a place-based round. I'll teach it and we'll sing it and then we will try to sing it as a round. It goes like this:

Steady as a rock,
Rooted like a tree,
I am here,
Standing strong in my rightful place.

Music is one way to bind kids to place. The experience of singing together should be part of a curriculum that celebrates place and community.

My challenge today is to give you a developmental perspective on sense of place education and how we might go about doing placed-based education at different ages.

First, I will define the problem that the Selborne Project is in reaction to, and articulate the developmental rationale for why this kind of approach is important.

The Problem with Rain Forest Education

If you go into classrooms from New Mexico to New York, instead of the Selborne Project, what you usually find is kids learning about tapirs and poison arrow frogs and biodiversity. They hear about the murder of activist Chico Mendez and watch videos about the plight of indigenous people. Educating children about rain forests, endangered species, and ozone depletion has swept the country.

Last year my first grader came home and said that a thousand acres of rain forest were cut down between snack and lunch time. Lots of environmental educators see this as a sign of success. They feel their work has paid off, but I find myself feeling concerned. But don't get me wrong. I'm ardent about protecting the rain forest but I think a lot of this rain forest education is happening at too early an age. And the end result may actually be contrary to what we want to accomplish.

While conducting research for *Childhood's Future*, journalist Richard Louv interviewed children in the neighborhood and elementary school he grew up in. He noticed that there was a big difference between the children's relationship to nature and what he experienced there 30 years ago. He said,

> *"While children seem to be spending less time physically in natural surroundings, they worry more about the disappearance of nature, in a global sense, than my generation did. As a boy, I was intimate with the fields and woods behind my house and protective of them. Yet, unlike these children, I had no sense of any ecological degradation beyond my small natural universe."*

And in response to one of Louv's questions about whether he liked to play indoors or outdoors better, one fourth grader responded, *"I like to play indoors, because that's where the electrical outlets are."* This is disturbing. Children are becoming disconnected from their immediate environments and connected to imperiled animals and ecosystems around the world. Teachers contribute to this by teaching about the far away world rather than the world that's right here, like the Selborne Project is doing.

What really happens when we lay the weight of the world's ecological problems on seven and eight year olds? We create what I call ecophobia. Ecophobia is a fear of acid rain, Lyme disease, pollution, and rainforest destruction that results in children saying, "I don't want to hear about this, it's too much." When young children see pictures of bludgeoned harp seals or oil soaked eider ducks, it's hard for them to protect themselves from the pain. We adults have defense mechanisms that young kids don't have to protect ourselves from such harsh realities. Ecophobia engenders a kind of fear before we have fostered the kind of connectedness that is the basis for what we want to accomplish as environmental educators.

This is illustrated by a project done by an eight year old after an endangered species unit. After an afternoon in her mom's studio, she produced a poster proclaiming "Save the Elephants, don't use Ivory Soap." She had made a mistaken connection between the killing of elephants for their ivory tusks, and the ingredients that go into Ivory Soap. Clearly her desire is to make the world right and to protect the planet. But wouldn't it make a lot more sense for her to feel protective about the muskrats in the pond across the street than elephants, which are harder for her to do something about? When we neglect the developmental aspects of environmental education, we alienate children from nature. I think of it as logging our kids; cutting them off from their roots.

I recently read a study by the Swiss National Science Foundation on the relationship between nature experiences, environmental tragedy experiences, and environmental behavior in adults in Switzerland. They found that environmental tragedy experiences were actually counterproductive. The author says, "Fear and disempowerment seem to result from experiences of environmental catastrophes. Although further learning occurs as a result of such experiences, the learning becomes a substitute for action rather than leading to behavior change and action."

If unaddressed, growing fear and anxiety about environmental problems have the potential to turn environmental education into a counterproductive activity. In this study education was actually becoming the behavior that was cushioning Swiss citizens from doing anything more. We want adults who are willing to take a stand and be effective, to sit on county councils, be on the school board, and be community activists, but if we start from the premise of fear that may not occur.

So what do we do instead? Rachel Carson, in her book, *A Sense of Wonder*, a book that never gets old, said:

> *"If facts are the seeds that later produce knowledge and wisdom, then the emotions and the impressions of the senses are the fertile soil in which the seeds must grow. Once the emotions have been aroused, a sense of the beautiful, the excitement of the new and the unknown, a feeling of sympathy, pity, admiration, or love, then we wish for knowledge of our emotional response."*

John Burroughs said it more concisely. He said, *"Knowledge without love will not stick, but if love comes first, knowledge is sure to follow."* What we need to do is reclaim the heart in nature education. We have to lead with this emotional connectedness before we start to impose issues on children.

Some interesting research in this realm is the significant life experiences research, which looks at environmentalists and activists and what it was about their childhood that led to them to being committed activists. Louise Chawla of Kentucky State University, who surveyed this research, says there are two things that you find. They are, many hours spent outdoors in a keenly remembered wild or semi-wild place in childhood or early adolescence; and an adult who taught respect for nature. It is interesting that Roger Tory Peterson, who loved to explore the semi-wild edges of Jamestown as a boy and whose interests were validated by his seventh grade teacher Blanche Hornbeck, fits right into this model.

An interesting conversation emerged in one of our small groups this morning. In his talk Paul Nachtigal said, *"Landscape shapes mindscape,"* but we found ourselves saying, *"Landscape is not enough to shape mindscape."* This is what this research suggests. You need landscape, but you also need adults who provide appropriate modeling, values, and tutelage. Roger Tory Peterson's experience suggests that we need the combination of landscape and appropriate modeling to support the development of environmental values.

A Developmental Perspective

There is a sensitive period in childhood development that is important to consider when thinking about environmental education. Maria Montessori talks about sensitive periods, animal behaviorists talk about critical periods. I think that there is a sensitive period for bonding with the earth and it is between the ages of six or seven and 11 or 12. What that means is that during that time there is a biological predisposition towards this kind of connectedness, this kind of "a-ha" experience that binds a person to the natural world. Our task is to figure out how you maximize the possibility of bonding experiences occurring for children.

Between the ages of four and seven, the latter part of early childhood, the objective of environmental education should be empathy with the natural world. That means "becoming" the natural world, being birds, moving like a deer, hiding the way a rabbit would hide. Activities, songs, and artwork that capture emotional responses can meet that objective.

Between the ages of seven and 11, the key notion is engagement. In other words, connecting with or exploring the natural world. This is a lot of what happens in the Selborne Projects as well as fort building, following streams, keeping nature journals, making paths, that kind of thing.

Annie Dillard, in *An American Childhood*, says:

> *"Walking was my project before reading. The text I read was the town; the book I made up was a map. First, I had walked across one of our side yards to the back alley with its buried dime. Now I walked to piano lessons, four long blocks north of school and three zigzag blocks to an Irish neighborhood near Thomas Boulevard.*
>
> *"I pushed at my map's edges. Alone at night, I added newly memorized streets and blocks to old streets and blocks and imagined connecting them on foot. On darkening evenings I came home exultant, secretive, often from some exotic leafy curb a mile beyond what I had known at lunch, where I had peered up at the street sign, hugging the cold pole, and fixed the intersection in my mind. What joy, what relief eased me as I pushed open the heavy front door – joy and relief because, from the trackless waste, I had located home, family and the dinner table once again."*

Annie Dillard describes exactly the scope of the one square kilometer study area of the Selborne Project. Her significant world was about the size of what you have actually chosen to focus on. Research done by geographer Roger Hart, measures the home terrain of young kids as they develop and he has actually quantified how big the home turf is. The home turf for a rural or suburban child of 10 or 11 is also fairly similar to the square kilometer of the Selborne Project.

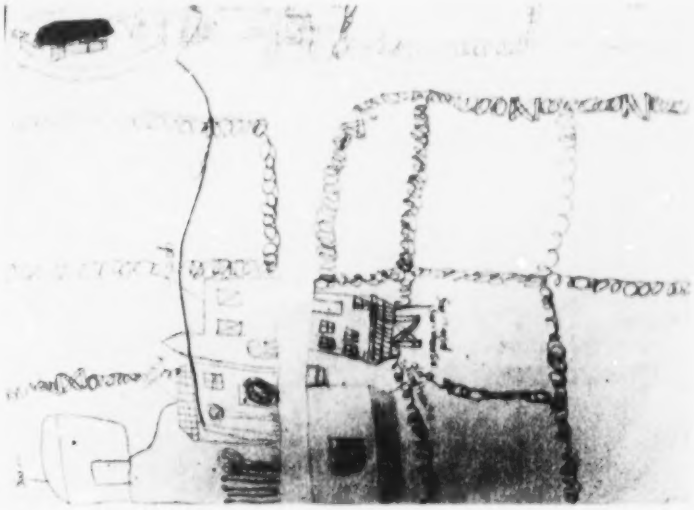
From the ages of 11 to 14, the core idea becomes social action. You don't leave behind empathy and exploration, you take on the next phase. Social action means cleaning up the streams, setting up school composting programs, creating habitat for nesting birds. To actually move into the social action mode at a local level is developmentally appropriate for kids at 11 to 14.

Now let's take a look at slides that illustrate the evolution of children's relationship to place and curriculum that focuses on enhancing and building this relationship.

Children's Maps and Place-Based Curriculum

The scope of a child's home turf, from their own perspective, becomes evident when they draw a map of it. Five-year-olds draw frontal views with a small scope. There is the house, the garden, always a rainbow. There is an enclosed, close-to-family, house-based world depicted in the map of a five- or six-year-old. On the maps of children who are a little older the perspective raises up, you aren't just looking at the map from straight on, you have an angle so you get a sense of a backyard. There is more scope.

By around the age of seven, you start seeing multiple base lines, which convey depth. The scope has gotten bigger, because you now have neighbor's houses in the picture and the perspective is changing. By around nine years old, the perspective rises up to around 45-degrees for panoramic or oblique views. By around 11 you start to get aerial views that include a much bigger scope. Maps made by eight to 11-year-olds also reveal special places, such as forts and dens, places in which they can manipulate their world away from the direct supervision of adults. The increased scope of the maps made by older children is indicative of a biological process of gradual movement into progressively larger significant worlds.



When we look at children's culture and what children tend to do on their own in the natural world, what we find can become the basis for curriculum that pays attention to children's gradually expanding world and their special places.

Children's fascination with special places can be appropriately utilized in curriculum design. Special places I have seen in my work with children include one in England that was in a hedge that had rooms hollowed out for each child as well as a larger "group" special place. Another was one of those places that everyone dreams about. It was like Sam Gribley's hemlock tree home in Jean Craighead George's My *Side of the Mountain*. There was actually a room inside a tree that kids from a whole area of South Devon knew about.

Building forts in hay barns was once very popular throughout New York and New England. It is one of the lost childhood arts, since haying and hay barns are disappearing.

Kids make what are called board houses on an island in the Caribbean called Carriacou. When they are younger they build little board houses nearby, in the neighborhood. When they are older they go up and build bush houses away from the village in the bush. Basically they are places to go while hunting.

If making special places is something that kids consistently do between the age of eight and 11, which I have found to be true, how do you take advantage of it? A teacher in Harvard, Massachusetts designed a project in which she required kids, if they didn't have a special place, to go find one and then to create a map of it with very specific guidelines. The kids had to go and sit in their place and do a sketch map of it. Eventually they had to do a map to scale. They had to include poetry and make a border of natural objects. Lots of interesting products came out of this very structured activity, such as maps, panoramic views, little poems, and legends. It was done with a rubric so there were 20 points for this, 40 points for that, and so on. It was quantitatively assessed, but built on this fascination that kids have for building a bond or connectedness to a special place near their house.

There are a lot of local geography, place-based projects going on in England that are really developmentally appropriate. One was a bulletin board diorama done with seven- and eight-year-olds in a village called South Brent. British teachers are good at emergent bulletin boards, ones created over a number of weeks. Kids were responsible for creating a diorama of the center of the village. Once they did all the buildings, they started to add all the other things. They went on lots of mini-field trips, like in the Selborne Project, and the diorama was the product that pulled it all together.

In a similar activity some slightly older kids created a table-top model instead of a bulletin board. They took lots of field trips to figure out what should go where. Creating the model sharpened their perspective, their capacity to make accurate observations. Lots of problem solving was used to figure out scale and the relative sizes of things. Their model included a goldfish pond with little goldfish and lily pads. While the second and third graders were making the model, the fifth graders were doing a survey map of the same pond. The same place was being explored, but at two different grade levels in developmentally appropriate ways.

In winter the goldfish pond would freeze and the things that lived in it died. The students figured if they could create a place where the salamanders and frogs could overwinter, then the pond would not have to be restocked each year. Their plan to build a bog next to the pond required a detailed and accurate map of the area. They used the surveying technique of taking measurements off of a baseline. Their finished survey map was very quantitatively accurate. The quantitative aspect was conceptually available to about a third of those kids, and it would have worked great for sixth and seventh graders.

"The Parish Maps Project" is one of my favorite place-based education projects I have come across. It was a big national project in England and the idea was to get communities to make maps of their towns or parishes, working from accurate geographical maps, in order to preserve places that were important in the town. The places like lover's lane, the good places to go swimming, the nice places to view ducks on the pond. Not necessarily the rare places, but the important places. There are some beautiful maps that came from that project.

One visiting artist was working on a parish map project with children in the parish of Ipplepen, Devon. His goal was to create a map of a small area near the school centered around a crossroads where five lanes radiated outwards for about 200 meters. One day I joined him as he strolled one of these lanes with a group of students and did two different mapping activities. One was to create a sound map of walking along the lane. They were not to say anything and only take notes of sounds. Here are one girl's notes:

bees buzzing
wind blowing
aeroplane throbbing
cow mooing very loud
sore throats
water rippling—very gently whispering telling secrets.

After walking about 200 meters he said, *"Now on the way back, I want you to collect things that we can use from this place to actually represent things on the map. If we are to represent this muddy lane on the map, we should take some of the mud back and use it to actually paint mud and show the lane."* He showed them how to do rubbings from plants so that could be done as well.

The kids rubbed the pigments from dandelions, marigolds, and cabbage leaves onto the map. The map was four or five feet in diameter. It included a picture of a big field oak we saw, and cows. On another walk they collected leaves and did leaf prints to represent the hedges. On one part of the map was an upside down map of Australia, because something that was made on that site was exported to Australia. The map included bird feathers that were collected along the way, and this sound poem written from notes taken while walking along a lane:

Engine throbbing,
crows crowing,
car door,
Wind blowing,
flies,
us walking
Echoing deep voice,
cows arguing,
burping,
Opera pop songs.
Water running,
singing,
whispering secrets.

Heartbeat.

In Springfield, Vermont, a fourth grade teacher devised a project based on the Black River which flows through the town. For about half a year students took field trips from the Black River's head waters to its mouth at the Connecticut River. Then they undertook the construction of a 20-foot model of the river as it runs through Springfield, including streets, bridges, and buildings.

The teacher found a reflective journal written by a gentleman who was around 80 years old, about growing up in Springfield. It became the literature base for the curriculum. All their spelling words came from this journal about being ten years old in turn-of-the-century Springfield. The science had to do with the physics of hydropower; they built turbines on little streams nearby. While workmen were repairing the bridge across the river, the kids had to get to school by walking down an alleyway and across a rickety footbridge (built in 1900, they learned from the journal). During one of their field trips they met a community volunteer doing the plantings in the park. The man talked to the kids about what he was doing and why, and how he cared about Springfield. The kids then helped him do the plantings. It was one of those wonderful, becoming-part-of-the-community experiences that happens because you are out there.

The teacher took black and white photos of both sides of the river and enlarged them. Then he gave the students a nice problem solving activity after lunch one day. He handed out the pictures and asked them to arrange themselves as the buildings are arranged along both sides of the river.

The students constructed a model of the bridge across the river. It was a woodworking and building activity, as well as a model-making activity. They actually used reinforcing bar and mixed and poured concrete to make the model. By doing this they learned something about the economics involved, and some good science, understanding the physics of cement. They lined the riverbed with slate that they could slice off in thin pieces, and ended up with a really substantial model of the center of Springfield.

The game of Village is a place-based curriculum project done in a number of middle schools. It is intended for fifth through eighth graders. It can also be done as a summer camp project, full-time for about five weeks. When done as a curriculum project it takes about three months to really do it well. In the game of Village students create a miniature village on a scale of one to 25.

To play Village the first thing you do is create a "peep," which is to be your character in the village. Your character gets a name and develops a profession. And it is often a kind of alter ego of the child. Then you homestead a "minacre" 1/25th the size of a real acre. The mathematics in this project are astounding. You also get a grant from the government of 500 minidollars. All the materials you use to build your house you have to purchase.

Then you mark off your area and build a fence around it, and build a temporary shelter for your "peep" to live in while the house is being built. Then you work in the shop on your house, designing and building it out of wood or cardboard. Different players develop specialties, becoming furniture makers, electricians, clothes designers or road builders.

At the same time you start building houses, you actually create a government. Everyone talks through their "peep", and in the course of deciding what kind of government you are going to use various environmental and social issues emerge: If we put the road here, we have a problem; there is a yellow jacket nest in the way. Do we get rid of the yellow jackets or do we reroute the road? If we reroute the road it's going to take more time and cost more money.

Real issues emerge in the course of creating this small world. Issues that are complex and sophisticated when you have to deal with them "*out* there" are manageable when you deal with them on a small scale.

At the end of the game there is a big fair. As part of the fair all the property is assessed. Everybody assesses everybody else's property. You get the value back of your property, then there is an auction at which you can spend the money you earned from improving your property. According to the lady who started the game, some kids' property is assessed for a lot, some is assessed for a little, but somehow everybody gets what they want at the auction; it's one of those mysterious things. There is also a minifair, which community and family members visit. Visitors make their own peeps, and there are rides for their peeps to go on. Everyone has a great time.

The whole point of these place-based projects is to allow children to develop a sense of purpose and identity, to provide the right scope and scale for them to start to work on the complicated social and ecological issues that will later confront them.

The chairperson of the planning board in my hometown, Jack Calhoun, is on the board of a new organization called the Monadnock Institute for the Study of Nature, Place, and Culture. He had to go to a board meeting with a definition of "place." Like me, he has trouble coming up with definitions, so he asked his kids, "*What does 'place' mean to you?*". He pulled together the replies of his eight and five-year-old and he wrote this charming piece which I'd like to share with you. The children said:

> *"Our place is where the people we love and who love us too, live. It is where our friends and neighbors are. It is our house and the trees that show us the changing seasons. It is the view of the hills and Mount Monadnock, the pond in the backyard where we swim, and the village. It is the sounds of the road out front and the sound of quiet at night. It is rain on the slate roof, the bird sounds in the morning, the wind outside during a blizzard and all the bright stars in the whole sky. It is where we feel safe."*

As these children suggest, I hope we can create schools and communities where children feel loved, where they feel connected to nature, and where they feel safe.

SUMMARY REMARKS:

Barbara J. Poore

Someone handed me a quote the other day in south-central Iowa, at an informational meeting I talked at. They were doing a project called Roots and Wings. I still don't know very much about Roots and Wings, except that it is based on this quote from Emily Dickinson: "You can't support something if you don't love it, you can't love something if you don't know it." Isn't that what we are about?

The Rural Challenge is unusual in that we don't just send out applications saying "If you are interested, fill it in." We do not do any of those traditional things, we send out scouts instead. The reason we send out scouts is, maybe, similar to the reason why you take kids out into the community instead of trying to teach everything out of a textbook.

When we scouts go out, we can see, touch, and hear what is going on in rural communities. When we get there, intermingle with rural people, get into their schools, talk to the community leaders, students, and parents, it tells us a lot about what is going on. We think it tells us more about the sincerity of what is out there. We also think that we eliminate a past problem of proposals that is that sometimes good proposals get funded, but don't necessarily mean good work. Good work does not necessarily get funded if somebody was not able to write a good proposal. We wanted to eliminate both of those problems. That is why there are nine of us around the country who are called "scouts."

Now I have heard from the Rural Challenge board that our job description will be changed to "steward." We hope to be around to be helpful, to work with the people who are already funded. One thing I spend a lot of time doing is going around the country trying to figure out who should be partnering with us in this challenge. I talk about Selborne. I use what you are doing as a great example of placed-based curriculum.

Another thing I talk about is, how I think what you are doing is systemic. When we first talked about this project with the board they said, "We think 'systemic' is when it goes throughout the system, not limited to a single place. If it is a 'project' then what happens when 'the project' is done? Does it all go away?" I do not think this goes away, because of the enormously wonderful training component that goes with it that builds capacities of teachers, because of the changes that occur, and the way that teachers think about teaching and learning. What goes on here is going to stick. I hope that as we go along, we will begin to see, with you, how that happens. We are learning a lot from what you do.

Last night Helen talked about how preservation has to be preceded by knowledge, which is another way to say the same thing that Emily Dickinson was getting at. She talked about Thoreau being a hundred years after Gilbert White, and that Roger Tory Peterson was about a hundred years after that. It occurred to me, "Who will be a hundred years after Roger Tory Peterson?" Won't it be interesting to see if we've had a part in making that happen? Jenny Streeter said that a town is an institution which deserves to be remembered. We are all school masters and the world is our schoolhouse. What a wonderful thought that is.

Towns in rural America are in pain these days. They have been for a long time. As I travel, I see bits and pieces of that everywhere. In the Midwest people are still reeling from the farm crisis of the eighties. Everywhere there is a lot of pain about what

happens with rural children, how we do such a wonderful job of exporting kids from our communities. Is there anything that can be done about it? As we talked about place today, I think it was Marty who said it is not about keeping people in the same place, it is about learning to live well wherever you are. Absolutely, that is what it is.

At the same time, when you say, "Live well wherever you are," we have given rural youngsters an unspoken message that, maybe, it wasn't very good to live in that place. They have left our communities in droves. We think some of the things that could happen in this project might begin to change that attitude.

This place-based curriculum is one piece of what we are doing. We will also see some entrepreneurial kinds of stuff, where young people learn how to start businesses and can figure out how to earn a living there. Every small town has adults in the community who represent ways to do that. As we get electronically connected to the world, kids have more and more opportunities to live where they want to live. I tell people I live in Indianapolis, but I don't work there. I haven't worked in Indianapolis in many years. I don't even work in Indiana more than one or two days a month. In the fall, I'm going to move to Iowa and it doesn't make any difference. It makes a lot of difference to me, because I am interested in moving to Iowa because it is my home place, it is where my roots are. That is exciting to me. But for my work it makes no difference, as long as I can get my computer on the Internet and can get to the airport and back. I feel that represents a wonderful opportunity for our young people, that they too can take advantage of and be in some places where we wouldn't think about.

I want to discuss some of the places I have seen. When Marty was talking about plain places and how God must have loved plain places, because there are so many of them, I started to think about the plain places I have been in the 18 months I have been doing this program. I was here, for the first time, last March. I remember being so completely inspired by the Selborne Project, that I made the rest of the scouts bored by the time I was done talking about it. I was inspired, and was back in October and was inspired again. I have to say before I get into these places, that this week has been particularly long, and last week was, too. Two states last week, the UP this week and then here. If somebody had said to me that this was another site visit, I don't think I could have gotten on the plane yesterday, but because I knew I was coming here and I knew it would be inspirational to see the work you are doing, I managed to do it.

Some of the plain places I have seen have some wonderful things going on. That is the wonderful irony. I was in the Upper Peninsula of Michigan earlier in the week. It was snowing and it was awful. I was in the western UP, a mining district. It is not a pretty place. There is a lot of poverty. The dirt, the mud, as it was that day, is all red, because it comes from the iron ore in the mines. The level of poverty is incredible. I went into this school called the National Mine School in Ishpeming. It was built in 1925, an old, crickety building, not very beautiful to look at on the outside, but inside there was the most incredible work going on - a project all of you would love, called "Red Dust". I wish I had some of their books with me so you could see them. The eighth grade kids in this school spend a good deal of their language arts and art program writing down histories of some part of that community and putting those together into a book. They also illustrate them in these incredible pen and ink drawings which even after they explained them to me, I cannot envision how it was done from photographs. They are beautifully detailed, every year. They have done this since 1983. Every year it is on a different piece of their community. This year, it happens to be on the schools that have served the areas over time, because the National Mine School is closing this year and they are going into a new building.

After I talked to them and got their sense of history it almost bothered me to think of them any place but in that building. I'm afraid they will get lost in the new place. Anyway, the eighth grade students wrote incredible things. I read a lot of them on the plane. They are fascinating. One year they focused only on the iron ore industry. I learned more about the iron industry than I could ever hope to know, in 45 minutes of reading on the airplane. In-depth interviews about the people in their community, getting into the issues around the mine, the tragedies, the good things that had happened.

In almost every one of those stories, the students end with some statement about how good the mine has been to people in the community and how important it has been to their lives. The people they interview talk about what good jobs they have had in the mines and so forth. Yet during the same visit, people talked about the fact that the mines are predicted to run out of ore and that iron ore is being processed now in the Caribbean at a fraction of what it costs in the UP in the old mines. What does that tell us about what might happen? It is a wonderful piece of history and economics, related to the things that Paul and Marty were talking about regarding community and economy.

I told the teachers in that project that they really would enjoy hearing about all of you. You will, probably, be hearing from them. We really have to connect people. I think everybody is hungry to talk to everyone else.

Tillamook, Oregon lies between the mountains and the Pacific Ocean, an absolutely a beautiful place, but with lots of poverty and isolationism. The main industry is dairy farming. One of the issues for the kids who graduate from the three high schools in Tillamook, is how do you get up enough nerve to go over that mountain and face the rest of the world. They are very isolated. In Tillamook, because of the process of figuring what they wanted to do as a community and a school, they got down to talking to many people in Tillamook County. They talked to migrant workers who work in the dairy barns as milkers, to welfare parents, to senior citizens. They did an incredible job of getting everyone involved, and they came up with some proposal objectives that I think will be exciting for them to work on. Here is a place that on the outside does not look plain, but on the inside it has lots of problems. It is this constant contrast that you see.

I went to Mariposa, California, which also is gorgeous. It is up next to Yosemite Park and is very isolated. Mariposa school district has 1400 square miles. They have alternative high schools in Mariposa county, not because they have kids who do not get along in a regular high school, but because they cannot get kids to high school every day because it is too far through the mountains. Part of the time the kids go to an alternative attendance center, somewhere in the mountains where there is a single teacher, much like being home schooled, and part of the time they are brought down to Mariposa. People in that community understand that they are dangerously tied to the tourist industry, and that if the park and tourism do not thrive, they won't either.

When the federal government shut down the park last year the people of Mariposa faced a crisis. The kids led and helped community people do a campaign to get attention to the fact that Mariposa was still open, even if Yosemite was not. They went to the bay area and did TV and radio appearances and made "Mariposa - always open" t-shirts and sweatshirts. They got some attention.

Yosemite Park has had their funds cut, like so many other federal parks have, and the park scientist had said to the biology teacher in Mariposa, "I can't collect the kind of

data that I need anymore to really know what is going on with the flora on the forest floor because I don't have the staff." For several years now that has been part of the curriculum for the biology class, to do this kind of data collection. Kids learn about plants in their natural habitat, collect data and input it into the park's computer system. Everybody comes out ahead.

I found some kids in northeast Iowa who will be doing an archaeological dig with the historical society. They have found a site that belonged to the Winnebago Indians. One of the three sites they occupied has never been excavated. The students in the history class, in conjunction with the historical society, are going to do that dig. I think that will be an interesting piece of locally based work.

In Henderson, Minnesota we went to visit the New Country School. It is a public charter school where everything is project oriented and totally integrated. There are about 80 kids in the school, which consists of three store fronts downtown. The kids are in and out doing all kinds of action research projects. They are the kids who you might have read about, who discovered the mutated frogs. They started to find frogs that were deformed, and discovered more and more of them. Then they started to pose scientific questions about it, asking how many are we getting, what proportion, what is causing it, and so forth. That eventually led to somebody looking at the problem and trying to figure out the cause.

When you meet the kids at New Country School, you can imagine that they would do that. A team of them are doing our web page, with a firm we have hired. It will be, we hope, a very deep and complex web page. When it is up and running, it will allow your students to talk to students in other places and get information from them, as well as ways for teachers to talk to other teachers across the country. The kids who are working on this team are having a challenging time working with the adults who have not worked much with young people. They came to do a presentation to the scout meeting about the beginning of this web page, and what we thought should go into it. The adults were having a hard time answering the scouts' questions. The student who was in charge of the team finally stood up, and, without being impolite, stepped in front and said, "I think what he is trying to say is this," and took over from there.

In Michigan, I found a town that was putting in a new sewer system. The committee that worked on this was made up of school and community people; that is why it is so important to make these connections, they happened to be there at the right place and the right time. The contractor, who was local, said, "I could cut about $12,000 off of this contract, if I could get somebody to measure all the streets and enter the data." The math teacher said, "I think my kids could do that." When I was there, the high school math kids had just finished measuring the last of the streets and putting the data into the computer system and had saved money for the community.

As you are out there in Selborne, these kinds of opportunities will continue to come up. The students need to know that what they are doing is worthwhile to somebody.

Last night, Jenny Streeter spoke of 650 souls that lived in Selborne. I was struck by her expression "souls". In this country we would say 650 people. I think what is wrong, is that the soul has gotten disconnected from education. We talk about standards, but what we are doing with the Selborne Project is a way to meet the standards in a way that is somehow soulful, that gets kids back in touch with what I like to think is old-fashioned common sense. I think this kind of curriculum makes sense. I think the work that we are seeing people do in the Rural Challenge just makes sense. It is what is in our hearts.

When I talk to parents across the country, I ask, "What do you want for your kids?" The first thing they say isn't, "I want them to do math," it isn't "I want them to be able to recite whatever." It is about what they *really* want for their kids. If I were to answer that question I would say, "I want them to be good people. I want them to be able to do a whole lot more than just compete in the world. Sure they have to be able to compete, but I hope that isn't all they do. I hope they can know how to live well in their environment with other people in their community. I hope they can be fulfilled as people, and along the way, be successful in their career."

I get real frustrated with the term "school to work", although I have learned to not get frustrated until I hear what people understand about it. I like to call it "school to life." Some of the school to work people understand it that way, too, to be fair, when they talk about it. They do understand more than, "We are producing little persons to go out and work in the economy." Thoreau said that education often "makes a straightcut ditch of a free meandering brook." I think we have a lot of free meandering brooks out there, that we should not try to make into straightcut ditches. When you get those kids out into the community, you start to understand what they need in order to make their experience successful.

I love David's expression about logging our kids. I find when I go across the country that in a lot of places we are also throwing away a lot of kids. I got into one community where I said, as I often say, "I would like to talk to a group of students sometime today." They were very accommodating, I got five high school students. I had said, "I'd love to have them be from all walks of your high school, kids who are involved, kids who aren't involved." As soon as I was with the kids, I realized that I didn't have that, I had the cheerleaders and the football players. That was OK. But when I asked the kids, "What do you think your town and your school needs?" the very first thing they told me was, "What we need to do is get rid of some of those kids. There are kids in this county who are dragging down the rest of us, and if we could get them out of our school, we could all do better." I was quickly out of town. It made me very sad, but I knew it was a place we could not work.

In an essay titled "Discovering One's Own Place," Paul Gruchow says, "Nothing in my education prepared me to believe, or encouraged me to expect, that there was any reason to be interested in my own place. If I hoped to amount to anything, I understood, I had better take the first road east out of town as fast as I could. And, like so many of my classmates, I did."

It is too familiar. I think what you are about is changing that. The big challenge for you as the Selborne Project unfolds, is to make sure that what you are doing does not stay a project, that it becomes a way of life, a way of understanding how to reconnect kids to community in significant ways. Marty spoke in a funny and great way about how community is the only really sustainable piece we have. I think he is right. If we don't get kids to be connected to the community, then we won't have them as adults either. We won't have a sustainable community. If we don't have people who as adults care about it, who volunteer in it, who vote, then we are done.

I hope that I am correct about my initial premise about Selborne the first time I came here, which was that those teachers cannot possibly experience this project and not change a whole lot of the way they think about teaching and learning. I think that what you do in Selborne will infiltrate everything else that you do and will fundamentally change what happens in your schools and ultimately in your communities. That is what it is about. I am just delighted to be able to come again and be inspired by all of you and I hope to be able to keep doing that periodically, because it is like a shot in the arm to come here and hear what you are doing.

A Note About Conference Field Trips

Mark Baldwin

Woven into the fabric of the conference were two field trips, to give participants the chance to enjoy being out in the fresh air in pleasant surroundings.

Paul Gruchow, in an essay in the Summer 1997 issue of *The Amicus Journal*, says "This is the difference between scenery and place: scenery is something you have merely looked at; place is something you have experienced." Our intent was to immerse the willing participant in a potent experience, through small groups led by naturalists who share a deep awareness and appreciation of this place.

Our morning bird walk, in spite of cool, wet weather (it even snowed a bit the previous day!), yielded 56 species, including Green-backed Heron, Virginia Rail, Sora, Pileated Woodpecker, and 11 species of warblers. Many participants reported seeing some of these birds *for the first time in their lives*.

Later we visited a small Audubon sanctuary filled with spring wildflowers, which have to be touched, smelled and viewed through a hand lens to be appreciated. Our schedule allowed us only a few hours in the field, but we got at least a glimpse of the intensity of life renewed in these sunlit woods.

Gruchow, in the same essay cited earlier, says that such a journey out of a scene and into a place "ultimately leads toward memory, the great leavening agent of our lives. A memory reverberates and echoes; it gives height and texture to every new experience."

Special thanks to the following people who donated their time and shared their enthusiasm with the conference participants:

Rebecca Albaugh
Allen Benton
Jim Berry
Tom Madison
Bill Mealy
Terry Mosher
Rebecca Nystrom
Bob Sundell
Don Watts

SUMMARY OF BREAKOUT SESSIONS

How can the Selborne Project more effectively address the need for appropriate nature education as articulated by David Sobel? Here are some ideas that came out of the small group sessions:

Use the community for lifelong learning
You can go back to the same community at different times in your life and have completely different experiences. In effect, that community can become an endless source of curriculum.

Retain the magic
Retain the element of magic in special places and the elements of imagination and play, particularly at the lower grade levels. If the Selborne Project is to expand into the younger ages, it is important that we pay attention to those appropriate developmental levels.

Record children's history
Record children's history, like the games children are playing in their neighborhoods, the things children are doing.

Make models
Have students produce three-dimensional models of their study area, of watersheds, buildings, and so on. There is only a tiny step to go from some of those three dimensional things to really getting involved in some sort of community problem solving: park design and so on.

Give back to the community
Incorporate community service into the project so that as young people learn, they can also make a difference.

Network nationally
Introduce Selborne teachers to people who have been around the country and seen a lot of great programs in order to give ideas to the teachers who are putting a Selborne Project together.

Foster a Selborne "attitude"
Incorporate the Selborne "attitude" as part of a lifelong learning experience. Students who have participated in Selborne will remember that time as being one of the sweetest things of their education. Have them keep their journals, and encourage them to include them in their portfolios later on as they take other natural science courses or field biology, so that they can carry that message throughout their life.

Examine developmental differences
Observe the developmental needs of children. We don't always look at how the fourth grader is learning, versus the eighth grader, and that is important for us to reexamine from time to time.

Keep Selborne's grassroots character
The only real way to make lasting improvement in schools is to involve the community from the ground up. The community itself has to be involved, the parents, the teachers, the students.

Keep parents involved
The parent-child relationship and parent involvement are crucial to educating our children.

Empower stakeholders
Empower the community, helping them to utilize the unique resources, empower the schools to handle the discipline problems, empower teachers and principals. It is a huge challenge. What it comes down to is complete community involvement.

What do Walter Cooper's and Paul Nachtigal's comments concerning education reform say about place-based education? More ideas shared from small groups:

Educate to live well
The question that should be asked of educators is, "How can we prepare students to live well?" Place-based education helps them to teach their students how to live well in their place. It is not about achieving certain goals, it is about preparing each individual to live with a quality of life that is satisfactory for them.

Connect with other communities
It is important to have a connectedness to other communities so that students don't become narrowly focused on their place. The point of place-based education is really to help students develop skills that help them to understand what it means to live well and that shouldn't be focused on the idea of one place being better than another place. We need to make them aware that there are many communities, and many ways of living well. That broad perspective needs to be included in this place-based concept.

Act locally, think globally
There is a contrast between the top-down reform that typically comes from the board of regents and the grass roots reform that is typified by place-based education. However, we still need to be connected with others and other communities and to find ways of sharing knowledge and ideas as a result of learning about our own place.

Place education in context
In order for education reform to occur, people have to think differently, not only about school, but also about questions of economics, of competition, of society, and of the purpose of life in general.

Make the standard the health of the community
If you make the health of the community your standard, then all of the schools decisions are open to review. Everything that that school is today, needs to be reviewed in light of that standard of the health of the community.

Realize that small is beautiful
We need to counter the idea equating quality with quantity in education, and that bigger is better.

CONFERENCE SPEAKERS

Helen Bowdoin

Helen Bowdoin serves as program director of the Thoreau Institute, a new education and research organization whose mission is to bring together the study of literature and the land; to examine the interconnections between people and nature. A former occupational therapist, Helen's love of nature has directed her into a mix of paid and volunteer experiences that have included producing an environmental education newsletter for Massachusetts teachers and serving as executive director of a small nonprofit seeking to protect Concord's threatened open space. Helen lives in Lincoln, Massachusetts, half a mile from Walden Pond.

Dr. Walter Cooper

Dr. Cooper is Regent Emeritus of the Seventh Judicial District of the University of the State of New York, the governing body of New York State education. His 30-year career with Kodak Research Laboratories led to a succession of senior research administrative positions and the management of a special Office of Innovation. He has published a wide array of scholarly papers in the field of chemistry and holds three patents. Dr. Cooper has also had a long and varied career of volunteer service to the Rochester area, including being a founding member of the Rochester Urban League, Rochester Area Foundation, Action for a Better Community, and The Finger Lakes Health System Agency. He and his wife Helen reside in the Rochester area.

Paul Nachtigal

Paul Nachtigal and his wife, Toni Haas, are National Co-Directors of the Rural Challenge. Paul is a longtime advocate for rural people, rural schools, and rural places. He has worked for the Leadership Development Program of the Ford Foundation; directed the Rural Institute at the Mid-Continent Regional Educational Laboratory; been a rural school superintendent and worked for the Colorado Department of Education. He has served as a consultant to numerous foundations and corporations, and is the author of *Rural Education: In Search of a Better Way* and numerous commissioned policy papers on rural reform. Paul and Toni live in Granby, Colorado.

Barbara Poore

Barbara Poore is a Rural Challenge Steward. She works with schools and communities throughout the midwest, identifying Rural Challenge partners and then helping them to connect with resources for their program efforts. In addition to her work with the Rural Challenge, Barbara provides technical assistance to communities funded by the Lilly Endowment, and teaches staff development courses for a literature based language arts program designed by the Developmental Studies Center in Oakland, California. Barbara began her career as a classroom teacher, and founded "Peanut Butter Press," a newspaper written by and for children in the Central Indiana area. She and her husband live in Indianapolis.

David Sobel

David Sobel is the chairperson of the Education Department at Antioch New England Graduate School in Keene, New Hampshire. In addition to his administrative and teaching responsibilities, he has been involved in a wide variety of education projects that have focused on developing environmental literacy in both teachers and children. David is currently serving as a consultant to the Center for Ecoliteracy in California, and to Chicago's Brookfield Zoo in their development of a children's zoo that fosters care for the natural world. He is the author of *Children's Special Places* and *Beyond Ecophobia*, and is working on a new book titled *Mapmaking with Children: Sense of Place Education for the Elementary Years* to be published in January 1998.

Marty Strange

Marty Strange manages the Rural Challenge's policy program. For 23 years, he served as program director of the Center for Rural Affairs in Nebraska, a leader in the fight for social and economic justice and environmental responsibility in rural communities, and currently serves as General Chairperson of the Center's endowment. His book, *Family Farming: A New Economic Vision*, is a leading critique of industrial agriculture. In 1992 Marty received Common Cause's prestigious Public Service Achievement Award. Marty lives with his wife, Annette Higby, and their son, Benjamin, in East Randolph, Vermont.

Jennifer Streeter

Jenny Streeter is Warden of the Gilbert White Field Studies Centre and Keeper of the Oates Memorial Museum in Selborne, England. In 1974 Jenny established the Gilbert White Field Studies Centre as the museum's facility for education outreach. About 90,000 students of all ages have attended the Centre, and many thousands of teachers have trained in the study of environmental subjects. Jenny is also responsible for natural history exhibitions at the Gilbert White Museum, and for research, archival conservation and exhibitions for the Oates Museum. Her special research interests are the distribution and behavior of British small mammals, and shallow water marine communities.

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Other Proceedings Available

Coming Home: Developing a Sense of Place in Our Communities and Schools is the eighth in a series of conferences presented by RTPI exploring issues involving nature education.

Copies of the proceedings of these previous conferences are available for a nominal fee upon request:

1988 *Breaking the Barriers: Linking Children and Nature*

1989 *American Nature Centers: Guidelines for Leadership in the Nineties*

1990 *Bridging Early Childhood and Nature Education*

1991 *Nature Education in the Urban Environment*

1992 *Value in American Wildlife Art*

1993 *Nature Photography: A Focus on the Issues*

1994 *Writing and the Natural World*

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